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ABSTRACT

The 12 issues of this 1998 publication each contain one or more analyses of postsecondary educational opportunities, including tables and charts. Titles of the individual analytical articles are: "Pell Grant Program Participation, FFY 1974 to FFY 1999"; "Poverty Rates by Educational Attainment, 1996"; "Refinancing Higher Education, 1952 to 1996"; "A Reauthorization Agenda for Students from Low Income Families"; "Competition for State Appropriations in FY 1998"; "Chance for College by Age 19 by State in 1996"; "The Private Investment Value of Higher Education, 1967 to 1996"; "Interstate Migration of College Undergraduates"; "Employment by Industry, 1939 to 2006"; "College Continuation Rates for 1997 High School Graduates"; "Recent High School Dropouts"; "Labor Force Participation of Recent High School Leavers"; "Educational Attainment for 25 to 29 Year Olds, 1940 to 1997"; "Educational Attainment in the States: Status and Importance to State Economic Welfare"; "Economic Perspectives on Education and the Value of Labor"; "Institutional Graduation Rates by Control, Academic Selectivity and Degree Level, 1983 to 1998"; "FY1999 State Appropriations for Higher Education"; "State Student Financial Aid Programs, 1970 to 1997"; "Freshman-to-Sophomore Persistence Rates by Institutional Control, Academic Selectivity and Degree Level, 1983 to 1998"; "Growing Income Inequality, Public Selfishness and Consequences for America's Children (and Our Future)"; "Educational Opportunity by Family Income, 1970 to 1996"; "Employment Change Among Industrial Sectors Based on Educational Attainment: An International Comparison"; "Where Are the Guys?"; "Student Financial Aid by State, 1996-97"; "State Tax Fund Appropriations for Higher Education, FY 1999"; "Students from Low Income Families and Higher Educational Opportunity"; "Chance for College for Students from Low Income Families by State in 1996-97"; "Academic Selectivity in Colleges and Universities, 1986 to 1998"; and "Low Family Income Student Distribution and Redistribution in Higher Education, 1974 to 1997." (DB)

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Postsecondary Education OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 67 **Oskaloosa, Iowa** **January 1998**

The foundation of financing opportunity . . . *. . . being reinvigorated*

Pell Grant Program Participation FFY1974 to FFY1999

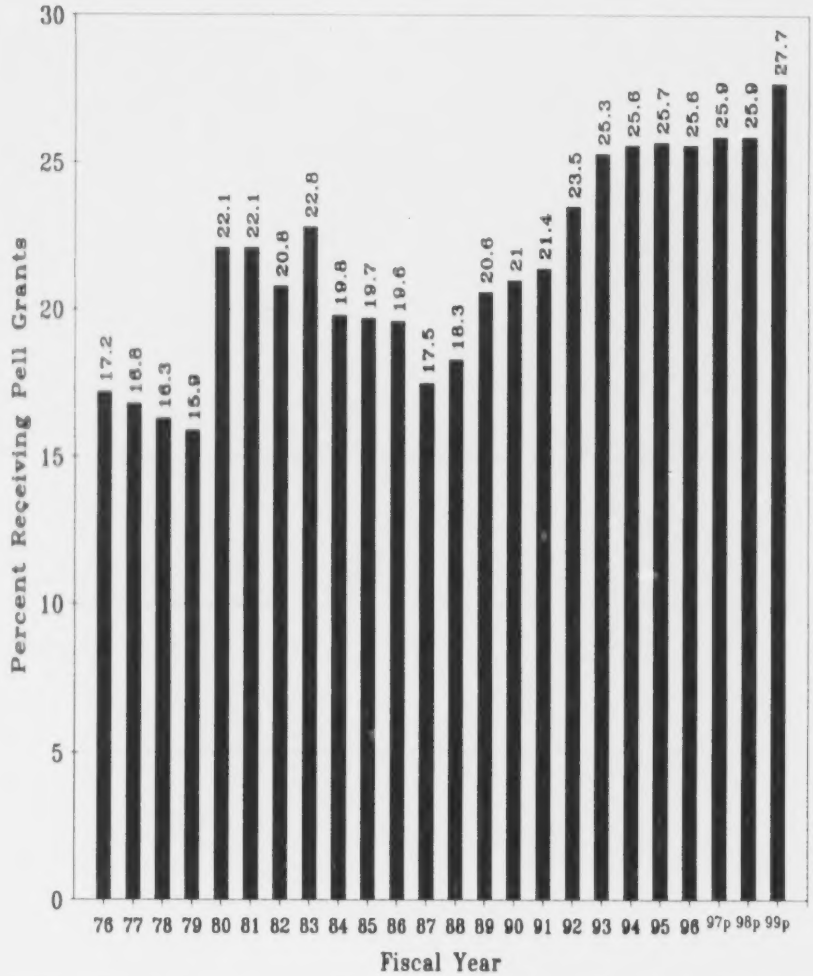
By the end of this academic year, more than 68 million Pell Grant Awards, totalling nearly $87 billion, will have been awarded to financially needy undergraduate students in U.S. public and private colleges and universities and proprietary schools.

The Pell Grant Program is a federal program of need-based grant assistance targeted on students from low income family backgrounds. It was created by Congress in 1972 as an extension of programs first enacted in the Higher Education Act of 1965. These programs grew out of a wide variety of federal initiatives to reduce poverty in the U.S. Currently about one out of every four collegiate undergraduates in the United States receives a Pell Grant of up to $2700 to help them finance their higher educations.

Until quite recently, the Pell Grant Program had suffered through many years of neglect. Since passage of the Middle Income Student Assistance Act in 1978, its original mission and focus have been greatly diluted. Congress added student eligibility by tinkering with formulas without adding sufficient funding to cover the added beneficiaries.

As a consequence, the purchasing power of the maximum Pell Grant award for those low-income students was greatly eroded. These low-income students, who were the original target of the Pell Grant Program between 1972 and 1978, saw the purchasing power of the Pell Grant maximum award decline from more than 75 percent of institutional charges (tuition, fees, room and board) in public 4-year colleges and universities

Higher Education Undergraduates Receiving Pell Grants
1975-76 to 1998-99



in the 1970s to about a third of these charges by the 1996-97 academic year. In private 4-year institutions, the purchasing power of the maximum award declined from about 35 percent of average institutional charges in the 1970s to about 13 percent by 1996-97.

This loss of purchasing power forced many low income students to choose a lower priced college, defer enrollment, enroll part-time while working to pay college costs, or assume educational debt--something low income students are particularly averse to doing.

In this analysis we address four issues of Pell Grant Program participation. First, overall Pell Grant Program participation is described over time. Then the role of the Pell Grant in assisting students from low income family backgrounds is illustrated. Third, Pell participation by state is described and explained in terms of income in each state. Finally, the erosion and recent turn-around in the purchasing power of the Pell Grant maximum award is examined.

The Data

Most of the data used in this analysis are collected and reported by the U.S. Department of Education, which administers the Pell Grant Program. The main data source is the highly statistical End-of-Year Report:

National Computer Systems. *1995-96 Title IV/Federal Pell Grant Program End of Year Report*. Washington, DC: U.S. Department of Education.

Additional data used in this analysis, e.g. enrollment data, are collected by the National Center for Education Statistics and reported in the annual *Digest of Education Statistics*. We have also used software distributed by the New York State Higher Education Services Corporation in calculating the expected family contribution and Pell Grant award at different levels of family income in this analysis. Finally, we have used state-level income data to illustrate why undergraduate college students in some states participate in the Pell Grant Program at far higher rates than do college students in other states. These data are provided by the Census Bureau from sources noted in the text.

Participation Rates

As shown in the chart on the first page of this issue of OPPORTUNITY, currently about 26 percent of all undergraduate students in public and private collegiate institutions receive a Pell Grant to cover part of their college attendance costs. This proportion has held about constant since 1992-93.

In the latter half of the 1970s, after all four undergraduate years became eligible to receive Pell Grants, about 16 to 17 percent of undergraduates received Pell Grants.

Then, in the 1978 Middle Income Student Assistance Act, Congress made a formula change (reduced assessment rate against discretionary income) that qualified many new students from higher income families for Pell Grants. Between the 1978-79 and 1979-80 academic years, the proportion of undergraduates receiving Pell Grants jumped by 6.2 percent. In one year nearly 650,000 additional Pell Grants were awarded based on these changes.

In the early 1980s, with the economy in recession and a decidedly different administration in office--one that seriously proposed abolishing all federal student financial aid programs--Congress rescinded some of the middle income eligibility that it had added in 1978. The proportion of

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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undergraduates receiving Pell Grants declined from 22.8 percent in 1982-83 to 17.5 percent by 1986-87. Since passage of the 1986 Education Amendments, the proportion of undergraduates receiving Pell Grants steadily and substantially increased, reaching the current level of about 25 percent in 1992-93. The federal higher education policy funding and changes enacted in 1996 will be reflected in some expected increase in Pell Grant recipients in the 1988-89 academic year.

Meeting Financial Need of Students

The federal Pell Grant is normally considered to be the first non-family source of assistance provided to students whose family resources for college fall short of the costs of attending college. (Others may fairly argue that the state subsidy of public colleges is actually the first source of assistance to students who enroll in public colleges and then face tuition charges that are well below the actual costs of providing educational services to students.) It is targeted to help meet the financial need of students from low income family backgrounds.

Generally, need-analysis begins with an assessment of each family's ability to pay for college from its own income and assets. The determination of financial need is as follows:

Costs of attending college
- Expected family contribution
= Financial need

where:

Cost of attendance is the sum of tuition, fees, room, board, books, supplies, transportation, personal and medical care, etc., for nine months of full-time study.

Expected family contribution is what a federal formula determines to be a reasonable and standard expectation available from the family's income and assets, and

Financial need is whatever is left over. This need is normally met with a financial aid package including gift-aid (grants, scholarships, waivers), loans and earnings from employment.

If, for example, the cost of attendance equals $10,000 for full-time, nine-month study (one year of college), and the Federal Methodology produces an expected family contribution of $6000, then the remaining financial need will be $4000. This balance is what is addressed through financial aid programs of grants, scholarships, loans, and earnings from employment.

Cost-of-attendance. For the current 1997-98 academic year, national average undergraduate cost-of-attendance ranges from $6196 as a commuter at a public 2-year college, to $21,421 as a campus resident at a private 4-year college or university. Average costs for other types, controls and residential arrangements range between these extremes (although there are individual institutions with both still lower and higher attendance costs). These data were reported by the College Board last fall from its annual survey of institutions and are shown in the accompanying table.

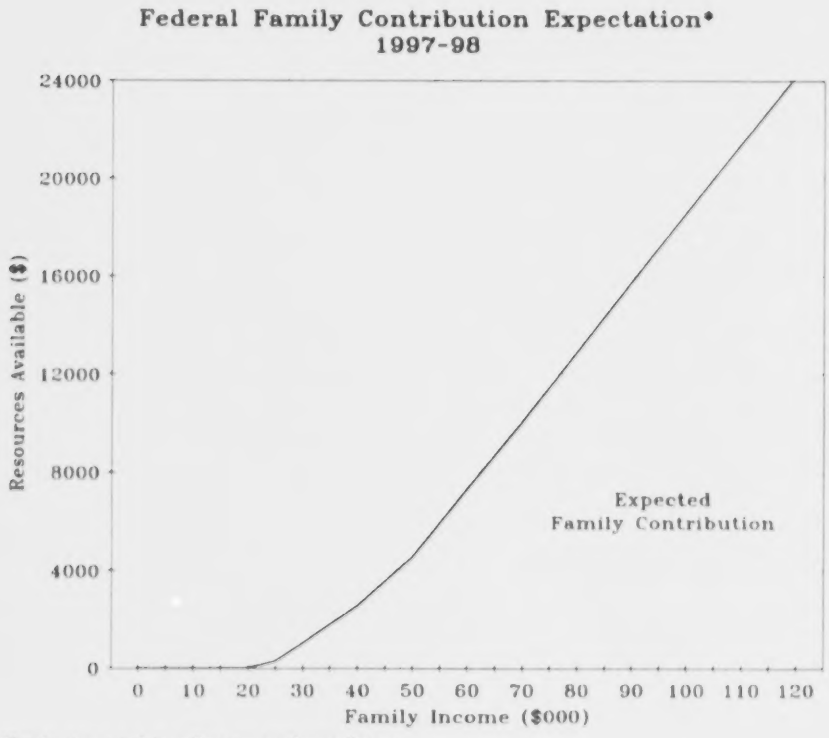
Expected family contribution. The federal government has adopted a formula that determines for each applicant an expected family contribution toward financing costs-of-attendance. This formula is called the Federal Methodology. The expectation that it produces is based largely on each family's income, its assets, number of family members, and number of family members enrolled in college. Actually there are different formulas used for students who are less than age 24 and dependent on their parents for financial support, and those who are 24 and over who are termed independent and who do not report parental resources.

For 1997-98, the Federal Methodology produces the following parental contribution expectations from income. These parental contributions are

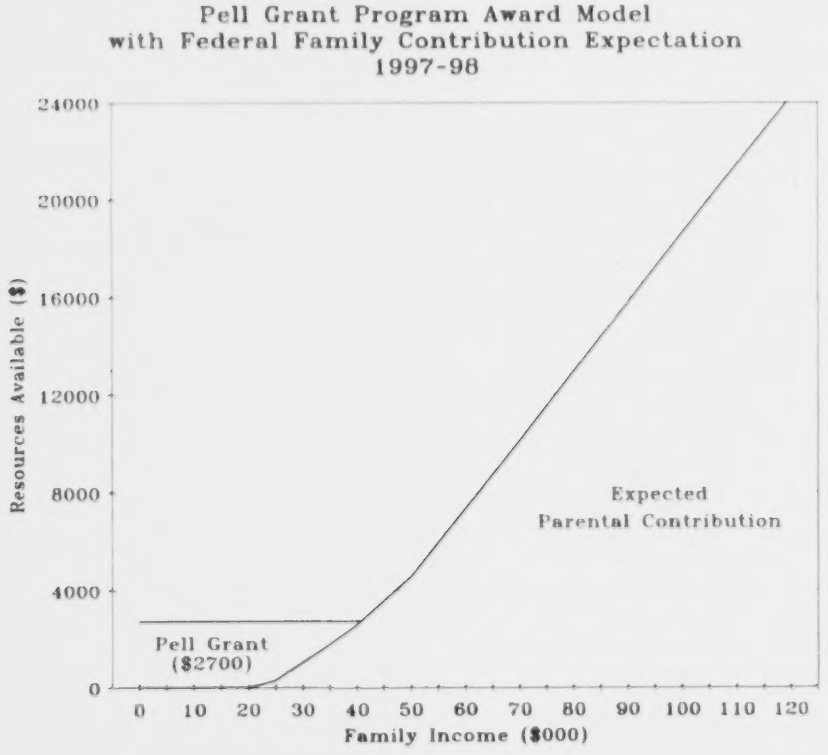
National Average Costs-of-Attendance for Undergraduates by Institutional Type and Control 1997-98 Academic Year

	Public 2-Year	Public 4-Year	Private 2-Year	Private 4-Year
Resident Students				
Tuition and fees	$1501	$3111	$6855	$13,664
Room and board	*	4361	4543	5549
Books and supplies	610	634	617	628
Transportation	*	573	610	537
Other costs	*	1390	1072	1043
Total	-	10,069	13,697	21,421
Commuter Students				
Tuition and fees	$1501	3111	6855	13,664
Board only	1881	1910	1963	1913
Books and supplies	610	634	617	628
Transportation	978	960	919	854
Other costs	1226	1465	1165	1201
Total	6196	8080	11,519	18,260

Source: The College Board. *News from The College Board.* September 24, 1997.
* Insufficient data.



*Family size = 4, 1 in college, no asset contribution



calculated for a dependent student from a family of four with one enrolled in college.

Family Income	Expected Parental Contribution
$0	$0
$10,000	$0
$20,000	$0
$25,000	$286
$30,000	$1027
$35,000	$1768
$40,000	$2536
$50,000	$4530
$60,000	$7276
$70,000	$10,043
$80,000	$12,889
$90,000	$15,735
$100,000	$18,581
$110,000	$21,427
$120,000	$24,185

These data are shown in the first chart on this page. The main message is clear: the expectation from families to finance the educational costs of their children in college increases with income. It is zero for families with incomes up to about $24,000 per year. For these families, incomes are so low that all available resources are required to meet basic survival needs.

Above about $24,000 per year in family income, families are judged under the Federal Methodology to begin to have discretionary resources available to help finance the college costs of their children. By $50,000 in family income, the EFC reaches $4530, and by $100,000 family income the EFC reaches $18,581. And so on.

Financial need. When the expected family contribution is deducted from cost-of-attendance, the balance is financial need. It becomes the responsibility of the financial aid director on the campus where the admitted student seeks to enroll to assemble a package of gift aid, loans and earnings from employment to enable the student to pay these

attendance costs.

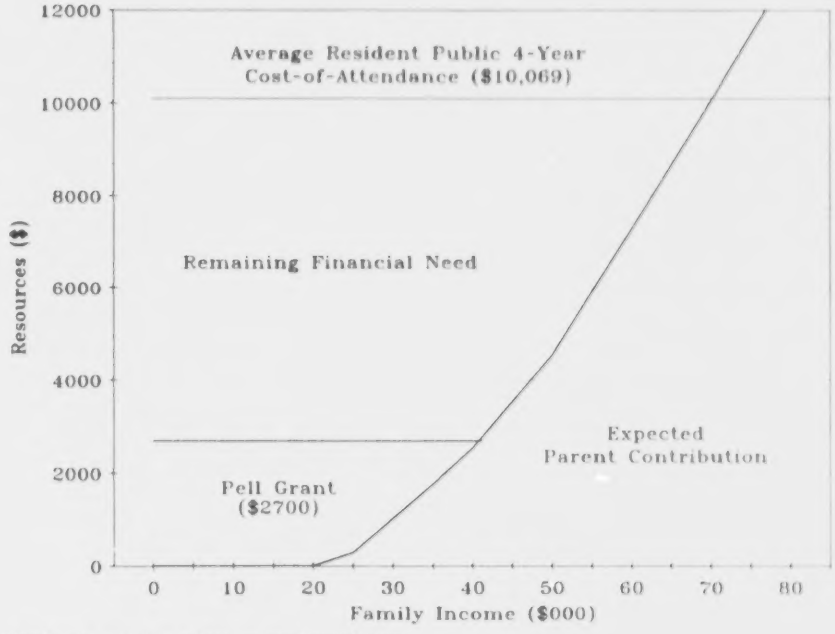
First among the financial aid awards used to meet the financial need of the student is the federal Pell Grant. That is shown in the second chart on the previous page. Up to a maximum of $2700, the federal Pell Grant becomes the first financial aid award for nearly all students from low income family backgrounds

We illustrate the relationship between cost of attendance, expected family contribution, financial need and the federal Pell Grant in the charts beginning on this page. The first chart shows these relationships for dependent undergraduates at different family income levels attending an average cost public 4-year college or university. For 1997-98 the cost of attendance is $10,069 for a student living on-campus.

- For a student whose expected parental contribution is zero (family income below about $24,000 per year), the Pell Grant is $2700. The remaining financial need is $7369.
- Between about $24,000 and about $40,000, a student would receive a partial Pell Grant. Remaining need would still be $7369.
- Between about $40,000 and $70,000 of family income, students no longer qualify for Pell Grants, but demonstrate declining levels of financial need with increasing levels of family income.
- Above about $70,000 of family income, the expected parental contribution from income exceeds cost of attendance and students are no longer financially needy.

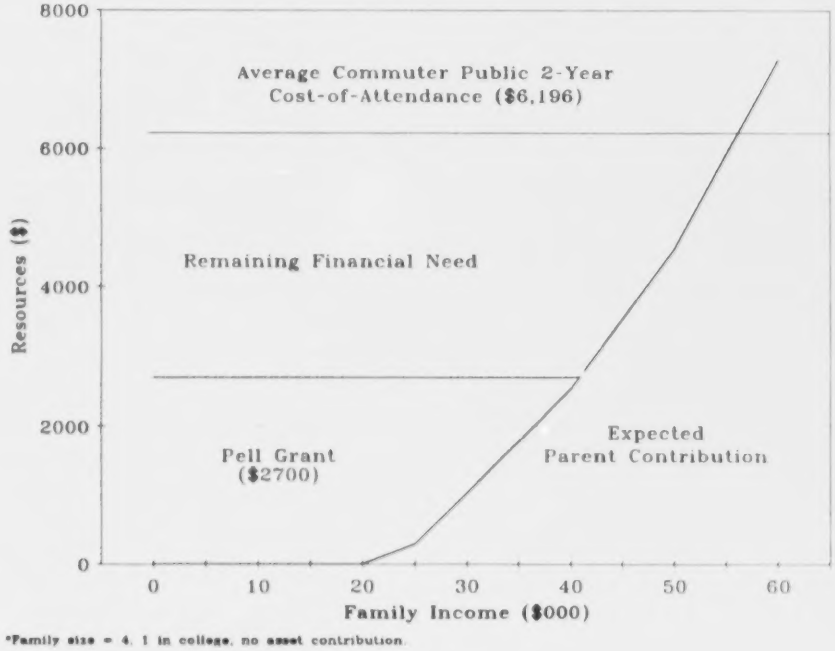
The same general pattern holds for students in public 2-year colleges living at home and commuting to campus. Here the cost of attendance is much lower--$6196. Thus, the expected family reaches cost of attendance much sooner, at around $55,000 in family income. Students

Financing Public 4-Year Costs with Pell Grant and Federal Family Contribution Expectation 1997-98



*Family size = 4, 1 in college, no asset contribution

Financing Public 2-Year Costs with Pell Grant and Federal Family Contribution Expectation 1997-98



*Family size = 4, 1 in college, no asset contribution

Pell Grant Program Summary Statistics

FFY1974 to FFY1999

Award Year	Applications			Elgbl Apps	Recipients				Formula	Maximum Grant		Min Grant	Cost Cap	Funding Level
	Official (000)	Valid (000)	Eligible (000)		Number (000)	Expend (000,000)	Mean	Indep (percent)		Authrizd	Funded			
73-74	512.9	482.3	268.4	F	176.0	$47.6	$270	13.3%	Pell	$1,400	$452	$50	50%	StepRed
74-75	1,304.9	1,114.1	681.6	FS	567.0	358.4	628	21.9	Pell	1,400	1,050	50	50	StepRed
75-76	2,339.3	2,178.7	1,455.2	FSJ	1,217.0	926.0	761	29.8	Pell	1,400	1,400	200	50	Full
76-77	3,590.4	3,408.7	2,258.0	Ug	1,944.0	1,475.4	759	38.3	Pell	1,400	1,400	200	50	Full
77-78	3,844.0	3,621.6	2,390.3	Ug	2,011.0	1,524.3	758	38.5	Pell	1,800	1,400	200	50	Full
78-79	3,885.4	3,401.4	2,228.6	Ug	1,893.0	1,540.9	814	36.7	Pell	1,800	1,600	50	50	StepRed
79-80	4,186.7	3,868.4	3,029.7	Ug	2,537.9	2,357.2	929	33.8	Pell	1,800	1,800	200	50	Full
80-81	4,825.4	4,475.8	3,330.5	Ug	2,707.9	2,387.1	882	40.6	Pell	1,800	1,750	150	50	$50Flat
81-82	4,945.8	4,614.6	3,398.2	Ug	2,709.1	2,300.0	849	41.9	Pell	1,900	1,670	120	50	$80Flat
82-83	5,118.6	4,709.2	3,341.4	Ug	2,522.7	2,420.5	959	45.9	Pell	2,100	1,800	50	50	StepRed
83-84	5,453.5	4,955.8	3,541.2	Ug	2,758.9	2,797.1	1,014	47.5	Pell	2,300	1,800	200	50	Full
84-85	5,514.0	4,981.4	3,558.4	Ug	2,747.1	3,053.0	1,111	48.6	Pell	2,500	1,900	200	50	Full
85-86	5,627.1	5,205.5	3,710.9	Ug	2,813.5	3,597.4	1,279	50.4	Pell	2,600	2,100	200	60	Full
86-87	6,028.3	5,535.7	3,769.6	Ug	2,659.5	3,460.0	1,301	53.9	Pell	2,600	2,100	100	60	LnrRed
87-88	6,297.6	5,714.2	3,812.8	Ug	2,881.5	3,754.3	1,303	57.5	Pell	2,300	2,100	200	60	Full
88-89	6,519.3	5,913.2	4,199.3	Ug	3,198.3	4,475.7	1,399	57.9	Pell	2,500	2,200	200	60	Full
89-90	6,778.0	6,165.3	4,347.7	Ug	3,322.2	4,777.8	1,438	59.0	Pell	2,700	2,300	200	60	Full
90-91	7,138.9	6,455.1	4,508.0	Ug	3,404.8	4,935.2	1,449	61.1	Pell	2,900	2,300	100	60	LnrRed
91-92	7,775.2	6,983.6	4,941.0	Ug	3,786.2	5,792.7	1,530	61.5	Pell	3,100	2,400	200	60	Full
92-93	8,248.1	7,365.2	5,243.1	Ug	4,002.0	6,175.9	1,543	62.1	Pell	3,100	2,400	200	60	Full
93-94	8,770.4	8,518.7	5,382.7	Ug	3,755.7	5,654.5	1,506	59.2	FM	3,700	2,300	400	100	Full
94-95	8,969.6	7,777.2	4,902.3	Ug	3,675.0	5,519.5	1,502	59.3	FM	3,900	2,300	400	100	Full
95-96	9,117.8	7,935.3	4,786.2	Ug	3,611.8	5,471.7	1,515	58.5	FM	4,100	2,340	400	100	Full
96-97	9,311.8	8,057.4	4,801.4	Ug	3,661.0	5,740.0	1,563	57.6	FM	4,300	2,470	400	100	Full
97-98		8,140.1	4,825.5	Ug	3,722.0	6,312.6	1,691	56.6	FM	4,500	2,700	400	100	Full
98-99		8,347.1	5,335.4	Ug	4,065.0	7,888.7	1,936	58.2	FM		3,000	400	100	Full

Notes and sources:
Most of these data are updated and published annually in the Department of Education's *Pell Grant End of Year Report*.

from families with incomes above this level have no financial need at an average cost public 2-year college.

Finally, the chart on this page illustrates the same relationship between average resident private 4-year college attendance costs, the expected family contribution and the Pell Grant. Here, financial need extends far beyond the coverage of the Pell Grant. While coverage of Pell extends up to about $40,000 in family income, students from families with incomes up to about $110,000 remain needy at average cost private 4-year colleges and universities.

Due entirely to differences in cost-of-attendance, the maximum Pell Grant covers about 13 percent of COA in the average cost private 4-year institution compared to about 44 percent in a public 2-year college and about 27 percent in a public 4-year institution.

Pell Grant Program in the States

Nationally, about 26 percent of undergraduates in colleges and universities received Pell Grants to help finance their costs-of-attendance for the 1995-96 academic year. However, across the states, the proportion of undergraduates receiving Pell Grants varies widely from state-to-state.

At one extreme about 80 percent of the undergraduates in colleges and universities in **Puerto Rico** received Pell Grants to finance their higher educations. While this was down from about 89 percent during the prior academic year, Puerto Rico's Pell Grant participation rate was about twice the rate of the highest state. Below Puerto Rico, the states with the highest Pell participation rates were **Mississippi** (42.8 percent), **Louisiana** (40.6 percent), **South Dakota** (38.9 percent), **Montana** (38.4 percent and **Arkansas** (38.0 percent).

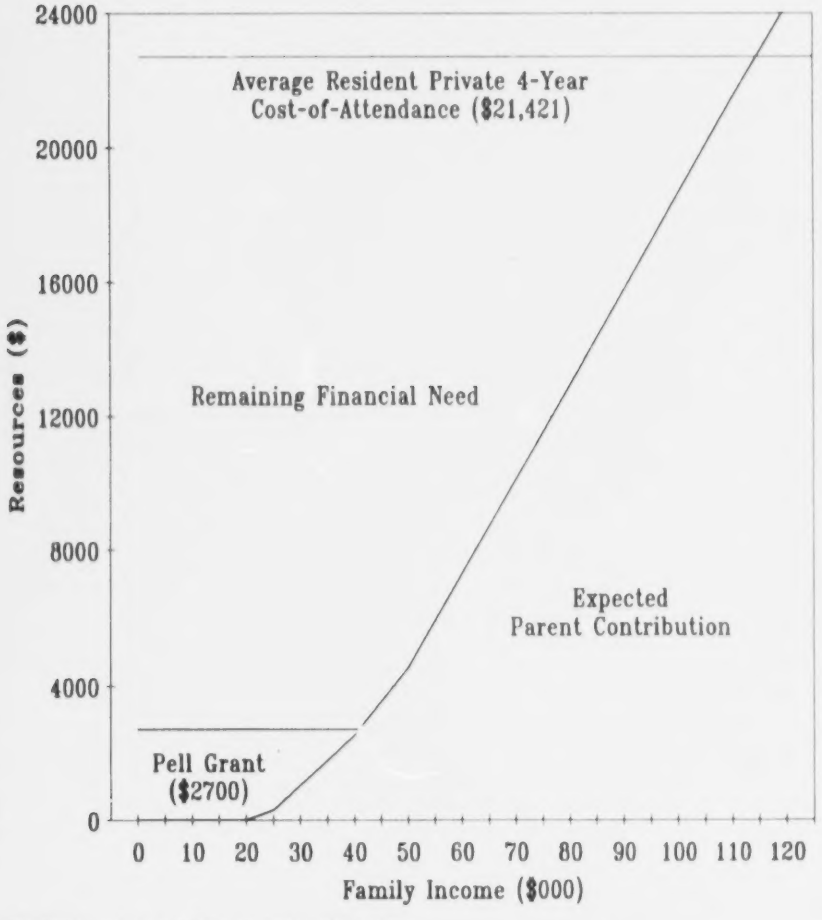
At the other extreme, just 10 percent of the undergraduates enrolled in **Nevada** colleges and universities received Pell Grants in 1995-96. Other states with notably low Pell Grant program participation rates were **Alaska** (13.0 percent), **Hawaii** (13.7 percent), **Delaware** (14.2 percent) and **Connecticut** (14.2 percent).

The above patterns are immediately clear: states with high incomes (family, per capita) will qualify fewer students for Pell Grants than will states with low incomes. We will return to this point shortly because of its dynamic and spatial significance in fostering educational opportunity among low family income students, wherever and whenever they are.

Over the eight year period between 1987-88 and 1995-96, the proportion of undergraduate students receiving Pell Grants increased by 7.2 percent, from 18.4 to 25.6 percent. However, the increase was uneven across the states.

In 42 of the 51 states (including the

Financing Private 4-Year Costs with Pell Grant and Federal Family Contribution Expectation* 1997-98



*Family size = 4, 1 in college, no asset contribution

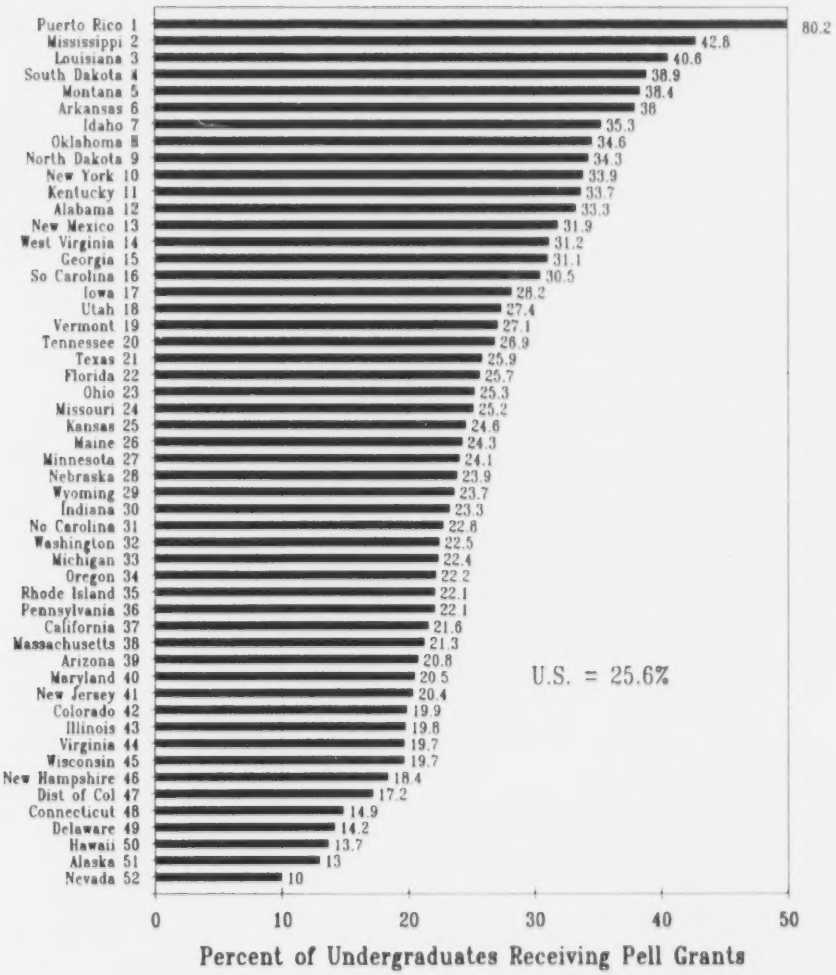
District of Columbia), the rate of participation increased. The increases were greatest in **Georgia** (+12.8 percent), **California** (+11.7 percent), **Vermont** (+10.9 percent), **Rhode Island** (+10.4 percent) and **Florida** (+10.0 percent).

At the other extreme, the rate of participation in the Pell Grant program declined between 1987-88 and 1995-96 in nine states. The declines were greatest in **South Dakota** (-7.4 percent), **North Dakota** (-5.1 percent) and **Minnesota** (-4.8 percent). Nearly all of the states where the proportion of Pell Grants declined were Midwestern states.

These two charts illustrate an important strength of the Pell Grant program. Federal students aid dollars go *where* they are needed, and they go *when* they are needed.

The very large differences in state rates of participation in the Pell Grant program--from 10 to 43 percent of undergraduates receiving Pell Grants--reflect large differences in the resources of students in different states to pay the costs of higher education. We have examined several state economic indicators to see which of these economic indicators is most closely related to the proportion of undergraduates receiving Pell Grants in the 1995-96 academic year. The relationship measure is statistical correlation. Here we have calculated the correlation between the state Pell participation rate with the following indicators. (We have done so with and without Washington, DC, which is not a state but is treated as such in the data used here.)

Pell Grant Program Participation by State
1995-96



Correlation between Pell Grant Program Participation Rate and Various State Economic Indicators 1995-95

	Fifty Statesw/o DC	50 Sts
Poverty rate	+0.58	+0.67
Unemployment rate	-0.08	-0.02
Per capita income	-0.70	-0.71
Median household income	-0.76	-0.79
Adults with BA	-0.46	-0.44
Adults with HS diploma	-0.43	-0.46
Average annual pay	-0.59	-0.61

In the above analysis, the state Pell Grant program participation rate is highly correlated with all state economic indicators except the unemployment rate. It is most highly correlated with median household income, per capita personal income and the poverty rate. (The plot of Pell participation rates by median household income appears on a subsequent page in this analysis.) These high correlations are a direct reflection of the focus of the Pell Grant program on students from low-income family backgrounds and their concentration in some states more than

others.

Changes in state Pell Grant program participation rates over the eight years between 1987-88 and 1995-96 further reflect the advantage of a national need-based student financial aid program targeted on students from low-income family backgrounds. The growth in Pell Grant participation in Georgia occurs when its governor is very aggressively encouraging school performance and higher education enrollment and achievement.

The decline in Pell Grant program participation in the Midwest states during this eight year period also reflects the recovery of the Midwest economy from the farm crisis of the mid-1980s. With a stronger economy by the mid-1990s, incomes are up (thus reducing need for federal assistance) and jobs are once again plentiful (thus diverting some potential college students into the labor market).

Maximum Pell Grant Award

For the current 1997-98 academic year, the maximum Pell Grant award is authorized in statute at $4500, but funded at $2700. Only students whose expected family contribution is zero--those students from families with incomes of less than about $24,000 per year--qualify for the Pell Grant maximum award.

Because of the signal importance of the Pell Grant program to educational opportunity for students from low income families, and because of the long period of neglect of the maximum award in federal budgeting for higher education (until very recently), we explore this issue in detail here.

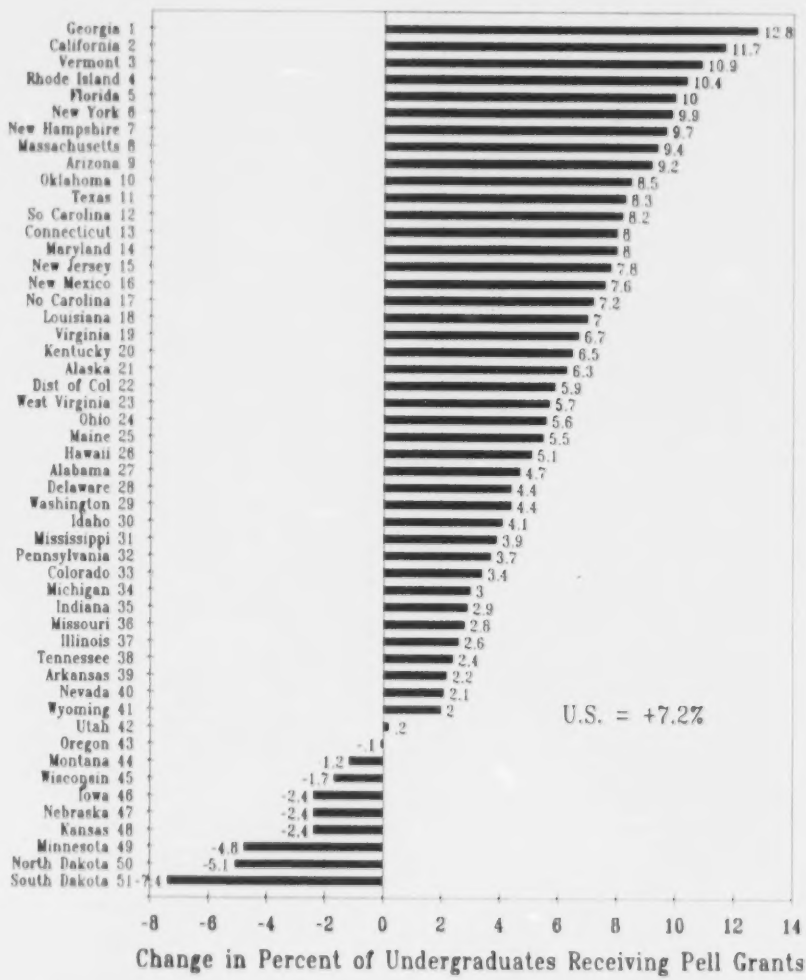
During the second half of the 1970s, in the first years of full implementation and funding of the Pell Grant program, and maximum Pell Grant covered between 70 and 80 percent of average institutional charges in public 4-year colleges and universities. (Institutional charges include tuition, fees, rooms and board. They do not include other costs-of-attendance including books and supplies, transportation and personal and medical care while enrolled.)

Then, beginning in the 1980-81 academic year, the purchasing power of the Pell Grant maximum award began to slide. By the 1984-85 academic year, the maximum Pell covered about 52 percent of average institutional charges in public 4-year institutions. By 1989-90 it was down to 46 percent. By 1994-95 is was down to about 34 percent, and had lost over half of its purchasing power relative to the institutional charges faced by students from the families with the lowest incomes.

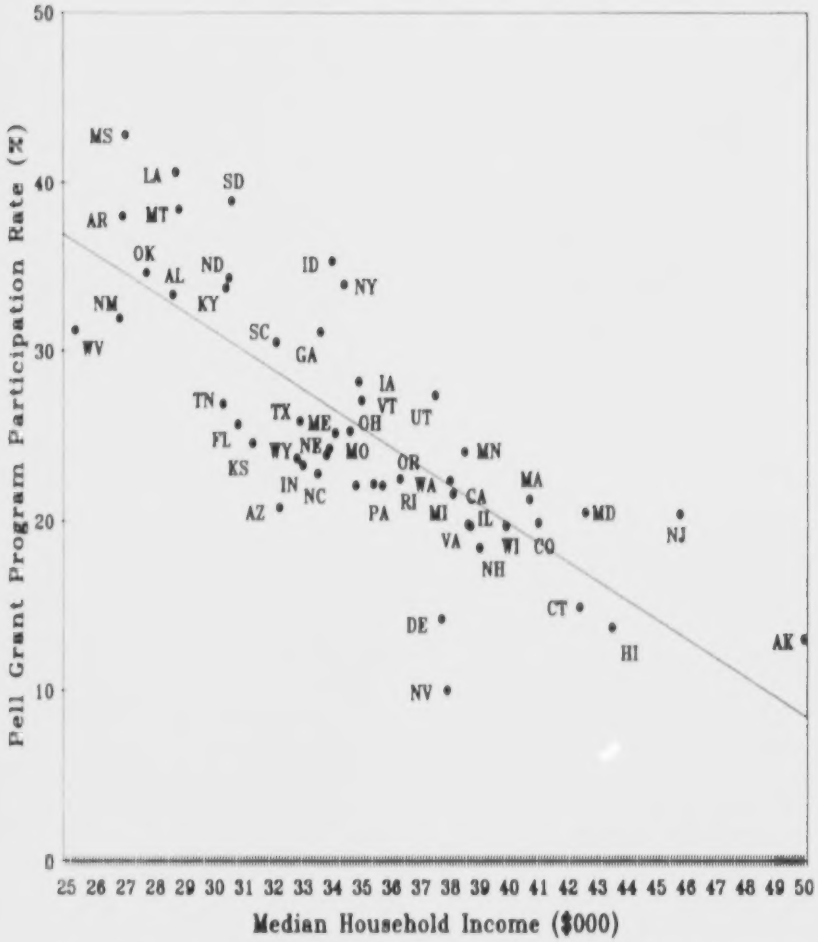
A similar pattern occurred in private 4-year institutions. In the 1970s, the maximum Pell Grant covered about 35 percent of institutional charges. By 1994-95 this had dropped to about 13 percent.

The cause of this decline is clear from the data reported in this analysis. On

Change in Pell Grant Program Participation by State, 1987-88 to 1995-96



Pell Grant Program Participation Rate as a Function of Median Household Income by State 1995-96



the one hand, Congress extended Pell Grant eligibility to a growing share of undergraduates enrolled in college. In the late 1970s, Pell Grants went to about 16 percent of all undergraduates enrolled in college. Currently the figure is about 26 percent. Thus Congress greatly expanded eligibility for Pell Grants, beginning with the Middle Income Student Assistance Act of 1978.

However, Congress did not increase funding sufficiently to cover the awards for these added beneficiaries. A substantial portion of the funding for the added beneficiaries came from the Pell Grant eligibility originally created for those students from lowest income families. Basically, funding was reallocated, from students from lowest income families to students from higher/middle income families for which Congress did not appropriate adequate additional funding to cover their increased eligibility.

The complete explanation for this loss of Pell Grant maximum award purchasing power has other dimensions. Among them are the growth in independent students, growth in the numbers of students enrolled in proprietary institutions, and--perhaps most important--the collapse in state funding for higher education that resulted in large tuition increases to students.

The core problem remains: the maximum Pell Grant for students from the lowest income families has lost over half of its purchasing power compared to the institutional charges faced by students in the years since the late 1970s.

There are a variety of ways to think about the erosion of the purchasing power of the Pell Grant maximum award since the end of the 1970s. We list a few of them here:

Current funding level	$2700
Increase at CPI since 1979	$3979
Authorized level	$4500
Public 4-yr inst. charges	$6030
Private 4-yr inst. charges	$7052

As shown in the above table, if the Pell Grant maximum award had been increased at the rate of increase in the Consumer Price Index between 1979-80 and 1997-98, it would have been $3979 for 1997-98 instead of $2700. Similarly, if it were funded at its authorized level it would be $4500 this year. If the Pell Maximum covered the same proportion of public 4-year college or university institutional charges, it would be $6030 this year. If it covered the same proportion of private 4-year institutional charges, it would be $7052 this year. These are alternative measures of the erosion of the Pell Grant maximum award between 1979-80 and 1997-98.

Obviously, the erosion of the purchasing power of the Pell Grant maximum award has a variety of responsible culprits.

- If the federal government were responsible for, say, inflation then the federal funding should be

provided to cover an additional $1279 to get the Pell maximum to $3979.

- If the states were responsible for, say, the price run-up in institutional charges beyond inflation, then states should provide funding to cover an additional $2051 to get the Pell maximum to $6030.
- If private institutions were responsible for, say, the price run-up in private institutional charges beyond what states had imposed on public institutions, then private institutions should provide an additional $1022 to get the Pell maximum to $7052.

But because federal and state governments have not maintained their levels of effort since the late 1970s, the effective burden has been shifted from taxpayers to students from low income families through increased use of educational loans to make up these differences.

Conclusions

The Pell Grant program was created during an era of social policy committed to equalizing educational opportunities. Of late the country is retreating from many of the commitments it made in the 1960s and 1970s to achieve that end. Among these commitments was the enactment and financial support of the Pell Grant program to help students from low income families finance their postsecondary educations.

The social policy commitment to equality has been replaced by an economic commitment to growth. Government, once viewed as an important counter-balance to the most exploitative tendencies of unbridled capitalism, has now joined business interests in a near mindless pursuit of economic growth. That growth has mainly benefitted a relatively narrow segment of the population--the top 20 percent of the income distribution. As government, as a counter-balance to the exploitative tendencies of capitalism, has been weakened, so to has its role in equalizing higher educational opportunities.

Nonetheless, economic growth requires an educated, if exploited, workforce. Education leads directly to productivity, and economic growth is increasingly determined by the productivity of human labor. The labor force requires human capital investment to realize its productive potential. Thus, the Pell Grant program continues to play a vital policy role, albeit one quite different from the forces that lead to its creation in educating workers to improve their economic productivity--and thereby justify higher wages than those paid to less well educated and less productive workers.

Finally, a common theme runs through the American experience, whether it be social policy directed toward equality or economic policy directed toward growth. That theme is opportunity. What motivated many of our ancestors to leave their native lands elsewhere in the world and come to America was the chance to fulfill dreams that could not be realized in the land of their birth. For many of us, life in America produced, over generations, far higher living standards than could have been realized in our ancestors' native lands. The American experience has been a signal to the rest of the world about how to address the aspirations of citizens.

We dare not loose sight of that lesson ourselves. Economic growth cannot be achieved and sustained without human capital investment. And because of its special targeting on students from low income family backgrounds, the federal Pell Grant program remains at the bull's eye, dead-center of the American opportunity agenda.

Proportion of Institutional Charges* Covered by Pell Grant Maximum Award 1973-74 to 1998-99e

* Tuition, fees, room and board only.

Poverty Rates by Educational Attainment 1996

Poverty is generally defined to be the state or condition of having little or no money, goods or means of support. It is the condition of being poor or indigent. More specifically in public policy, poverty has dollar definitions based on family size and age. These are called poverty thresholds or, in a slightly different version, poverty guidelines. Below these income thresholds or guidelines, people are living in poverty with little or no means of support.

In many past issues of OPPORTUNITY we have examined the relationship between educational attainment and income. Consistently the data show that increased levels of educational attainment lead to increased levels of income and the higher living standards greater incomes support. This is true for males, females, whites, blacks, Hispanics, Asians, people of all ages, and people living in all states. And it applies to aggregations of individuals, including families, communities, states and the nation.

Here we focus on those with very low incomes, those who live in poverty as defined by the federal government. We have retrieved and analyzed data collected by the Census Bureau in the Current Population Survey. In particular we have calculated poverty rates by educational attainment for different groups of Americans.

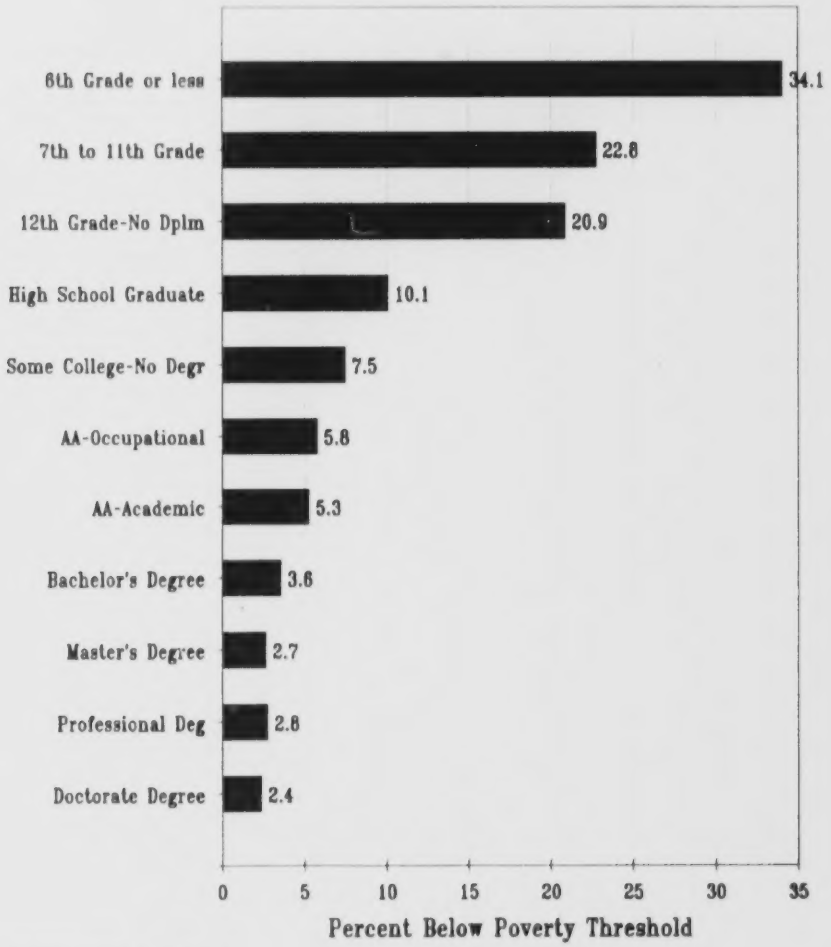
The findings are about what we expected: poverty rates are negatively correlated with educational attainment. That is, poverty rates are lowest for those with the most education, and highest for those with the least education. This finding applies to every population classification we explored, and we examined dozens.

This finding take on a special degree or urgency following passage of welfare reform. This "reform" is intended to reduce social dependency among the poor.

On August 22, 1996, President Clinton signed into law the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. It became Public Law 104-193. The major provisions of the Act are:

- elimination of the open-ended federal entitlement program of Aid to Families with Dependent Children (AFDC),
- creation of a new program called Temporary Assistance for Needy Families (TANF), which provides block grants for states to offer limited cash assistance,

Poverty Rates by Educational Attainment
1996



Source: Census Bureau, Age 25 and over

- makes extensive changes to child care, the Food Stamp Program, Supplemental Security Income (SSI) for children, benefits for legal immigrants, and the Child Support Enforcement program,
- modifies children's nutrition programs,
- reduces the Social Security Block Grant, and
- retains child welfare and child protection programs.

Federal Definitions of Poverty

There are two slightly different federal definitions of poverty.

Poverty thresholds are the original version of federal poverty measures. They are used by the Census Bureau (and in this analysis) for statistical purposes. Examples of statistical use would be the calculation of poverty rates.

Poverty guidelines are issued each year by the Department of Health and Human Services (HHS) for administrative purposes, such as determining eligibility for certain federal programs. They are a somewhat simplified version of the threshold numbers developed by the Census Bureau. For 1997 the HHS poverty guidelines are:

Family Size	48 states	Alaska	Hawaii
1	$7,890	$9,870	$9,070
2	10,610	13,270	12,200
3	13,300	16,670	15,330
4	16,050	20,070	18,460
5	18,770	23,470	21,590
6	21,490	26,870	24,720
7	24,210	30,270	27,850
8	26,930	33,670	30,980
each addl	2,720	3,400	3,130

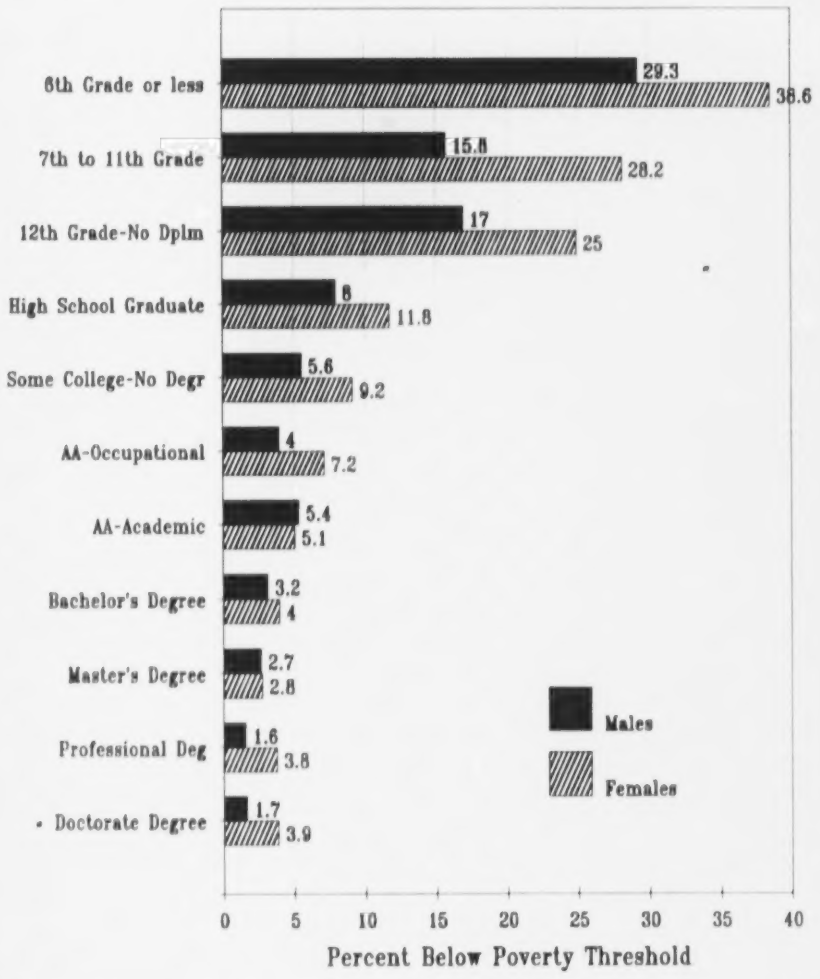
Poverty Rates

In 1995 13.8 percent of the U.S. population lived below the poverty level. Poverty rates varied widely for different groups of Americans:

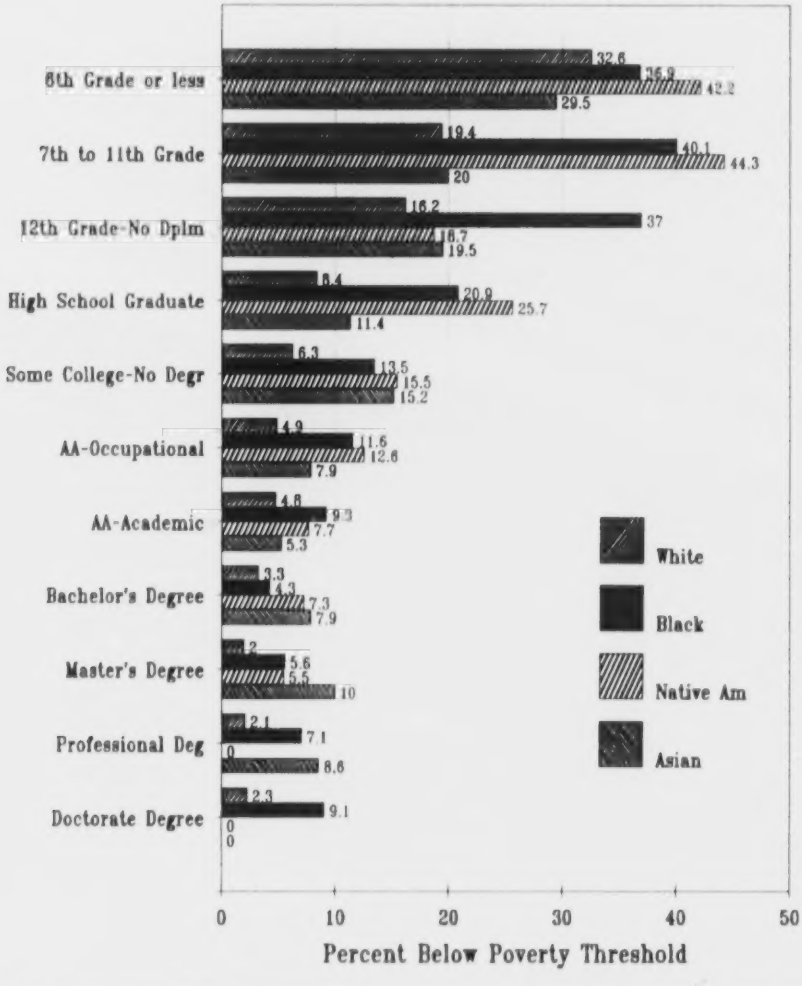
Males	12.2%
Females	15.4%
Whites	11.2%
Blacks	29.3%
Hispanics	30.3%
All children	20.0%
White children	15.5%
Black children	41.5%
Hispanic children	39.3%
Northeast	12.5%
Midwest	11.0%
South	15.7%
West	14.9%
Under 18 years	20.8%
18 to 24 years	18.3%
25 to 34 years	12.7%
35 to 44 years	9.4%
45 to 54 years	7.8%
55 to 59 years	10.3%
60 to 64 years	10.2%
65 to 74 years	8.6%
75 years and older	13.0%
All families	10.8%
White families	8.5%
Black families	26.4%
Hispanic families	27.0%

Across the states the proportion of the population living in poverty ranges from 5.3 percent in New Hampshire to 25.3 percent in New Mexico.

Poverty Rates by Gender by Educational Attainment
1996



Poverty Rates by Race by Educational Attainment 1996



Here we are interested in examining these data by educational attainment. And to exclude those who are still enrolled in the educational system earning the educations they will live with and by as adults, our analysis is limited to those 25 years old and over. These are unpublished data (until now) retrieved with the Ferret data retrieval utility from the Census Bureau's web site. The data are from the March 1997 Current Population Survey, and refer to poverty status in 1996.

Total. The chart on page 12 shows the basic pattern of all of our findings: poverty rates decline with educational attainment. Poverty rates among Americans 25 and over ranged from 34.1 percent for those with a 6th grade education or less, to 2.4 percent for those who had a doctorate degree.

There were several sharp breaks in these data. One of the most striking is between those who completed the senior year of high school but did not receive a diploma and those who did receive a diploma. The poverty rate is less than half that of non-graduates compared to graduates.

Gender. These data are first disaggregated by gender in the chart on page 13. Overall poverty rates are higher for women than men. These differences are greatest among men and women who are not high school graduates. Above that level, and especially for those who earn at least an academic associate's degree, the differences nearly disappear.

Race. Next the data are disaggregated by race. The data are shown in the chart on this page for the four racial groups: white, black, Native American and Asian. The overall pattern still holds: poverty levels decline with increasing levels of educational attainment.

However, some sharp differences emerge between the groups. For example, at most levels of educational attainment, poverty rates are lower for whites and Asians than they are for blacks and Native Americans. Furthermore, for blacks in particular, poverty rates are lowest for those bachelor's degrees, then rise somewhat above that level of education. For example, the poverty rate among blacks with PhDs is more than twice the rate for those who hold bachelor's degrees.

Hispanics. Racial data do not distinguish ethnic groups. Although not reproduced in chart form here due to lack of space, we retrieved data on poverty rates among various Hispanic groups, e.g. Mexican American, Chicano, Mexican/ Mexicano, Puerto Rican, Cuban, Central or South American and other Spanish. (These data are available to subscribers on request.)

For all of the major Hispanic groups--Mexican Americans, Mexicans/Mexicanos, Puerto Ricans, Cubans and Central or South Americans, the previous patterns are still found. Poverty rates are highest among those with least formal

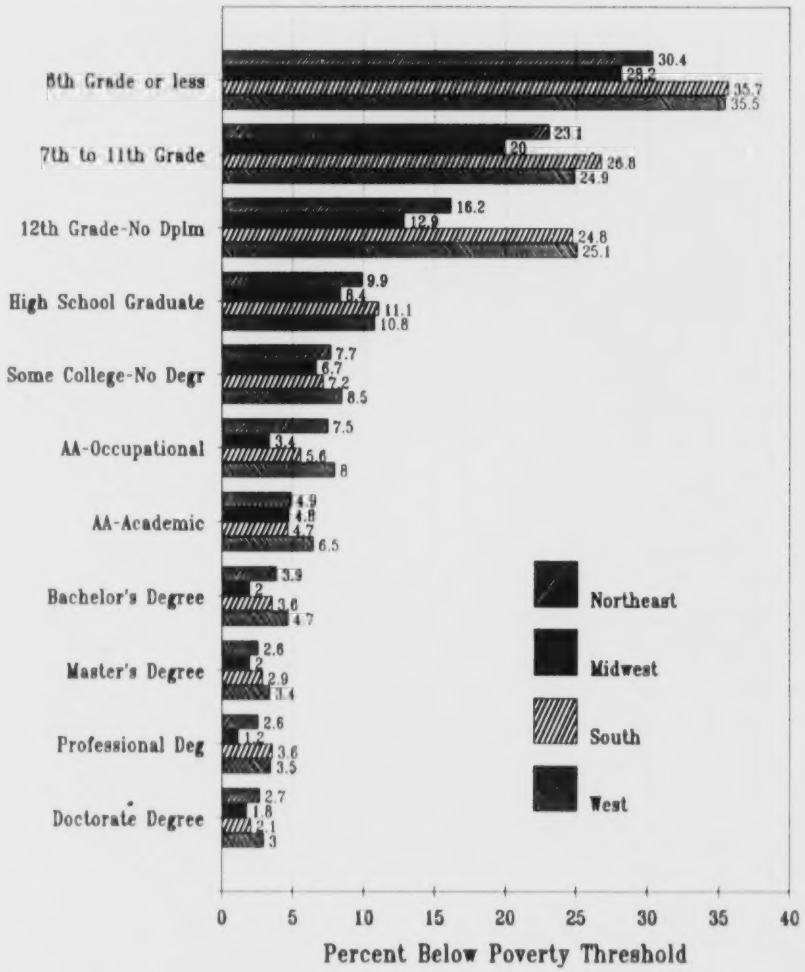
education, and lowest (often zero in the CPS sampling) among those with the most formal education. Generally, at each level of educational attainment, Puerto Ricans had somewhat higher poverty rates than did other Hispanic groups.

Marital status. The Census Bureau collects data on six conditions of marital status: married spouse present, married spouse absent, widowed, divorced, separated, and never married. One again the usual patterns were evident: poverty rates were negatively related to educational attainment.

However, these data point to the enormous economic power of marriage to improve living standards. At every level of educational attainment, poverty rates were very much lower for those who were married with spouse present than for any and all other marital categories. For example, among high school graduates, the poverty rate for those who were married with spouse present was 5.1 percent compared to 16 to 25 percent for all other marital conditions. At the level of the bachelor's degree, the poverty rate for those who were married with spouse present was 2.0 percent, compared to 6 to 16 percent for all other marital statuses. Generally, at educational levels below the bachelor's degree, people who were either married with spouse absent or who were separated had the highest poverty rates. (These data too are available on request and have not been graphed here due to space limitations.)

Geographic region. Poverty rates in each of the four geographic regions of the U.S. are consistently negatively related to educational attainment. Just as they are in the aggregate data (p. 13), at most levels of educational attainment, poverty rates are lowest in the Midwest, and highest in the West and South.

Poverty Rates by Region by Educational Attainment
1996



Metropolitan region. These regions are disaggregated into central city, suburban and nonmetropolitan. Once again, for each region, poverty rates are highest for those with least formal education, and lowest for those with most formal education.

At nearly all levels of educational attainment, poverty rates were lowest in suburban regions. Similarly, at most levels of educational attainment, poverty rates are highest in central cities.

Summary and Conclusions

Poverty has a range of definitions, from near death due to starvation or exposure, to relatively low living standards. There is cyclical poverty, collective poverty (both generalized and concentrated) and case poverty for those who study it.

By whatever frame of reference one chooses to examine and define poverty, there is widespread agreement that poverty is harmful to individuals and society. At the

minimum, those who live in poverty tend to live shorter lives and the quality of their lives is less than those who live at more affluent levels. For those who do not live in poverty, the social pathologies of the poor spill over on to the rest of society in crime, drugs, out-of-wedlock births, and the costs of the social programs created to address these problems.

At one point in our nation's history, we undertook a War on Poverty. In the mid-1960s, President Johnson outlined a three-part strategy to reduce or eliminate poverty. The planks of the War on Poverty were: a) increase the human capital of the poor by investing in their health and educations, b) reduce irrelevant barriers such as race to full participation in the political and economic systems of the country, and c) stimulate the economy to create more jobs so that as the newly capitalized poor were ready to enter the labor market that jobs would be ready for them. From this most ambitious plan came an outpouring in 1964 and 1965 of federal laws related to civil rights, voting rights, economic opportunity, public accommodations, elementary and secondary education, higher education and other legislative initiatives.

In the years following the enactment of the legislation attacking poverty, the national poverty rate declined from 17.3 percent in 1965 to about 10 percent throughout most of the 1970s. In the 1980s and 1990s the poverty rate grew to about 12 to 13 percent where it has remained through the present (except for brief blips to 15 percent in the economic recessions of the early 1980s and again in the early 1990s).

Now we are undertaking a new social policy toward poverty--effectively another social experiment. Under the umbrella of welfare reform, we will try to address poverty by limiting the time for which individuals may qualify for cash assistance. By removing a means for not working, government policy will attempt to drive the poor to self-sufficiency by eliminating the alternative means of sustenance of social dependency. Obviously, many serious questions remain about this approach, but we are undertaking it nonetheless.

What the data here indicate is that education and training must be at the very core of programs that will effectively move people to self-sufficiency. For every way of slicing up the population, poverty is negatively associated with educational attainment. Expressed another way, the way out of poverty is through education and training that increase the productivity of labor, thereby justifying good wages and the living standards good wages supports.

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Number 68 **Oskaloosa, Iowa** **February 1998**

Shared responsibility . . . *. . . being shifted and shirked*

Refinancing Higher Education 1952 to 1996

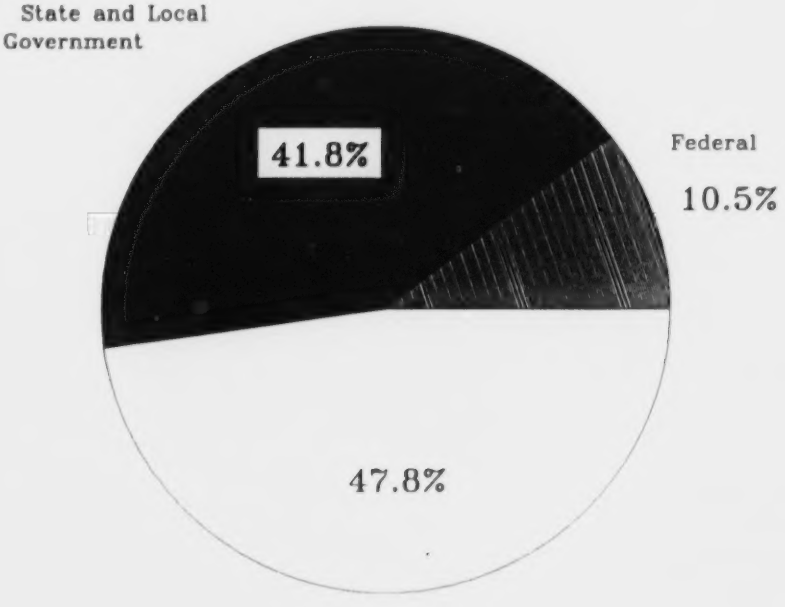
The National Income and Product Accounts (NIPA) provide one of at least a half-dozen ways to view the long-term respective contributions of students (and their families), state taxpayers and federal taxpayers to the financing of higher education in the United States. The NIPA data provide an especially important perspective, both because of the very long time period of reported data and because of the facility of comparing higher education expenditures to other expenditures by individuals and government in the United States. These NIPA data were recently updated--both revised and extended--and so we revise and extend our previous use of these data to describe the system of shared responsibility long employed for financing higher education in the United States.

Over time, the NIPA data describe a series of enormous shifts in the financing of higher education, most recently from state taxpayers to students and their families since about 1980. Prior to that the NIPA data document a shift to federal government from state efforts to finance higher education.

But the NIPA data tell other important stories as well. Most important, the NIPA data tell a clear story of stagnant investment in the higher education of Americans. Since the early 1970s, when economic development in the United States has grown increasingly dependent on returns from human capital investments, social investment in human capital through higher education has declined sharply, particularly at the state level. Declining social investment has been offset nearly dollar for dollar by increased private investment.

This shift from state taxpayers to students has occurred largely without any state recognition that students are

Revenues by Source for Higher Education
1996



Total: $136,500,000,000

not equally able to absorb the higher prices institutions must charge students to offset the loss of state appropriations. It is not only a federal responsibility to assist needy students, particularly when states have created the affordability crisis for students from the lowest income family backgrounds. But nearly all states have simply walked away from this responsibility for assisting their own most needy/lowest income citizens.

The Data

The National Income and Product Accounts are used to measure the market value of the goods and services produced by labor and property of the United States. Where this production occurs in the United States, the result is known as Gross Domestic Product (GDP). GDP is defined as:

> *... the sum of personal consumption expenditures, gross private domestic investment ..., net exports of goods and services ..., and government purchases. GDP excludes business purchases of goods and services on current account.*

These schedules are prepared by the Bureau of Economic Analysis, a branch of the federal Department of Commerce, located in Washington, DC. The major historical publications used in this analysis are:

Bureau of Economic Analysis, U.S. Department of Commerce. (February 1993). *National Income and Product Accounts of the United States, Volume 1, 1929-58.* Washington, DC: U.S. Government Printing Office.

Bureau of Economic Analysis, U.S. Department of Commerce. (September 1992). *National Income and Product Accounts of the United States, Volume 2, 1959-88.* Washington, DC: U.S. Government Printing Office.

These data are regularly revised and updated, and these revisions and updates are published from time to time in the monthly *Survey of Current Business.* For example, the most recent extensions and revisions of the government expenditures data on higher education appear in:

Bureau of Economic Analysis, U.S. Department of Commerce. (October 1997.) "Annual NIPA Revision: Newly Available Tables." *Survey of Current Business.* Volume 77, Number 10. Washington, DC: U.S. Government Printing Office.

The higher education data that appear in the NIPA schedules were originally gathered in the IPEDS financial survey and from other sources. These data are then shared with the Governments Division of the Census Bureau, and from there go to the Bureau of Economic Analysis for inclusion in the NIPA. We are grateful to Karl Galbraith, Chief of the Government Division of BEA, for assisting us in the interpretation of the data.

Among the many schedules that are aggregated to measure GDP are three key schedules:

Table 2.4: Personal consumption expenditures by type of expenditure

Table 3.16: Federal government expenditures by type and function

Table 3.17: State and local government expenditures by type and function

The lines in these three tables form the basis for our analysis, along with GDP numbers in one chart.

Personal consumption of higher education refers to the tuition and fees

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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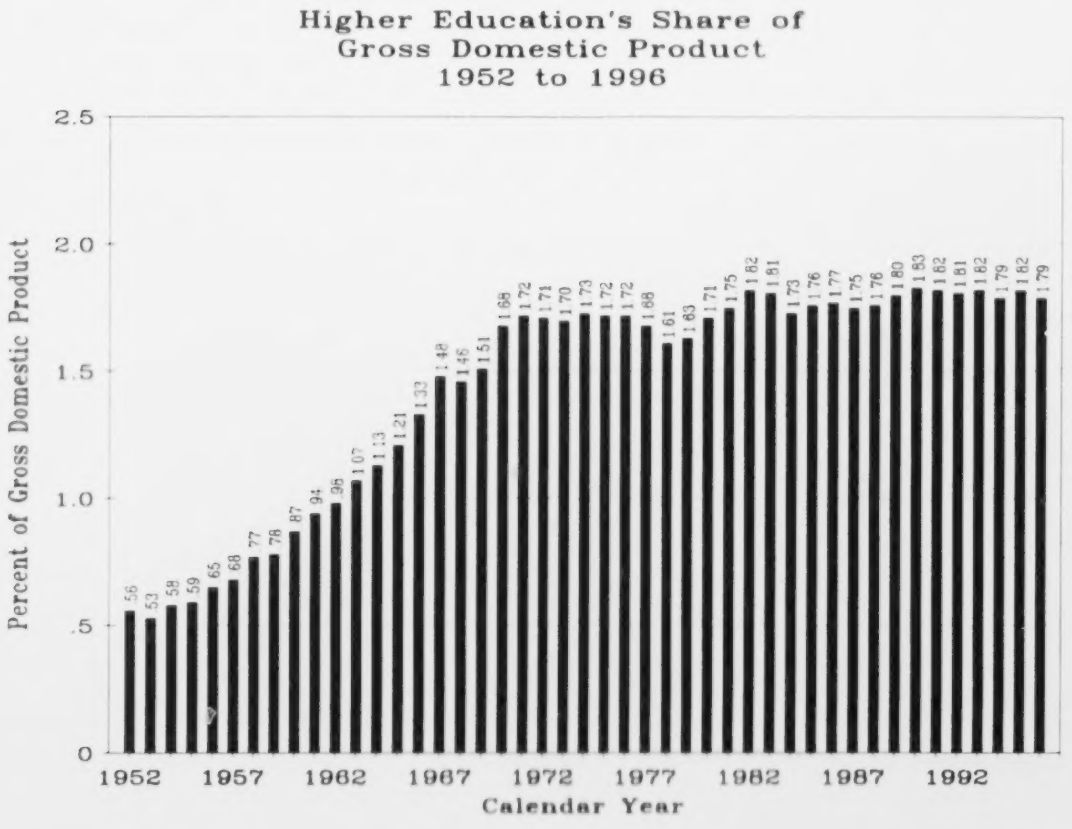


paid by students at public and private institutions.

Federal expenditures for higher education include mainly federal budget costs for student financial aid, including the Pell Grant program, plus loan program costs, financial aid administration, and some small institutional expenditures.

State and local government expenditures for higher education includes both all related expenditures for instruction, research and community service, academic support, libraries, student services, administration and plant maintenance. Also included are dormitories, cafeterias, bookstores, athletics, student activities, lunch rooms, student health services, college unions, college stores, barber shops and the like. About the only things excluded are hospitals operated be medical schools and agricultural extension services.

Expenditures for Higher Education

In 1996 expenditures for higher education totalled $136.5 billion according to NIPA. In current dollars funding in billions has grown since 1952 as follows:

1952	$1.9
1960	$4.6
1970	$17.4
1980	$47.6
1990	$105.3
1996	$136.5

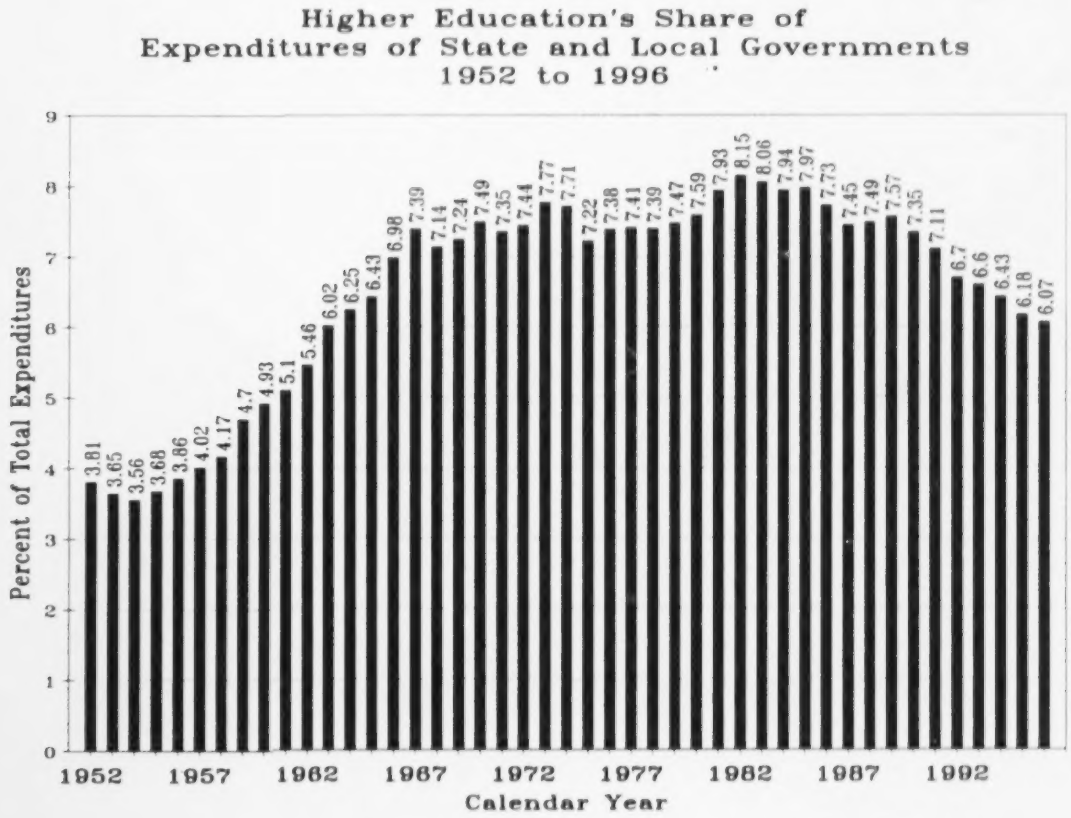
Financing higher education in the United States has always been a shared enterprise. In 1996 the contributions of the major funding sources was as follows (in billions):

Tuition and fees	$65.2
Federal government	$14.3
State/local government	$57.0

The percentage distribution of the total is shown in the chart on page 1 of this issue of OPPORTUNITY.

For our purposes here, an especially important way of thinking about these combined efforts of all three funding sources is to consider total expenditures as a proportion of Gross Domestic Product or the resources available to finance higher education.

- As the chart on this page shows, higher education's share of GDP increased rapidly between 1952 and 1971, from 0.56 percent of GDP in 1952 to 1.72 percent by 1971. Between 1971 and 1996, total expenditures for higher education expressed as a proportion of GDP remained flat.
- By 1996 higher education's share of GDP stood at 1.79 percent, slightly above the 1971 level of



1.72 percent but below slightly larger shares reached in 1982-83 and 1989-95.

We will return to this finding in the concluding section of this analysis because of its implications for constraining economic growth and development in the United States since the early 1970s.

State and Local Governments

Expenditures for higher education of state and local governments reflect mainly state expenditures. Since 1952, the funding history is as follows (in billions):

1952	$0.9
1960	$2.4
1970	$9.5
1980	$25.6
1990	$51.8
1996	$57.0

More important than this apparent growth is the proportion of all expenditures of state and local governments that these amounts represent. As shown in the chart on this page, higher education's share of the total increased from the early 1950s through 1982, and has been in steadily decline between 1982 and 1996.

- In 1952 higher education consumed 3.81 percent of all state and local government expenditures.
- This increased almost steadily to a peak of 8.15 percent in 1982.
- By 1996 this had declined to 6.07 percent of the total.

The decline in higher education's share of the expenditures of state and local governments can be measured in dollars. By 1996, each one percent of state and local government expenditures amounts to $9.38 billion. Thus, the 2.08 percent decline between 1982 and 1996 amounts to a loss to higher education of $19.5 billion in state and local government appropriations.

We have written recently in OPPORTUNITY (November 1997) about this decline in state support for higher education. It is widespread, having occurred in all 50 states, although more so in some states than others. Its most immediate impact has been on the tuition and fee charges faced by students as institutions seek to offset losses in state funding with increased student charges.

Federal Government

The federal involvement in financing higher education comes quite recently, in 1960 in the National Income and Product Accounts. (Note that

Veterans' and Social Security Survivors' benefits are tabulated elsewhere in NIPA.) The expenditure history of the federal government on higher education is, in billions:

1952	$0
1960	$0.2
1970	$1.3
1980	$5.5
1990	$9.5
1996	$14.3

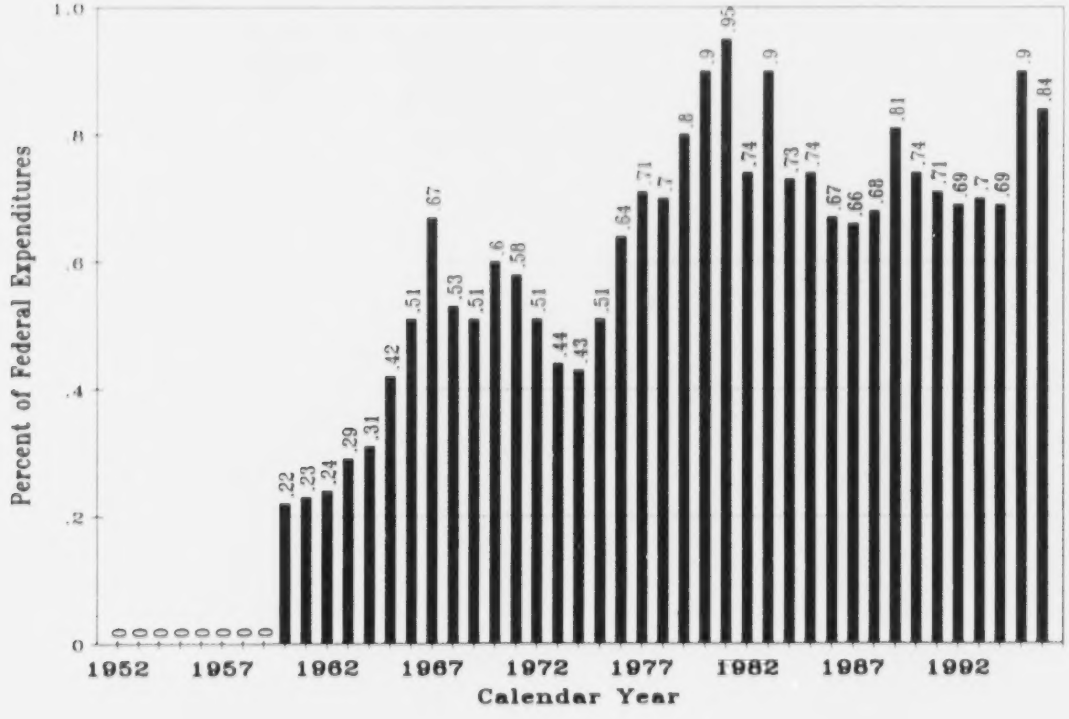
In the NIPA, these are the sums of grants, non-defense purchases, domestic transfer payments, and domestic transfer payments to non-profit institutions. These expenditures are almost entirely on either federal student financial aid programs or their administration. In 1993, for example, nearly 80 percent of the total was for the Pell Grant program alone. Less than 9 percent went to non-profit institutions.

As a proportion of all expenditures of the federal government, these expenditures for higher education have never reached one percent of the total. They increased from zero in 1959 to a peak of 0.95 percent in 1981. After 1981 they quickly dropped off to roughly 0.7 percent of all federal expenditures from 1982 through 1994. During the two most recent years these expenditures have jumped sharply to 0.8 to 0.9 percent of federal expenditures. This increase appears to be a result of greatly increased educational loan program borrowing by college students that was authorized in the 1992 Higher Education Amendments.

Each one-tenth of one percent of the expenditures of the federal government in 1996 amounts to $1.7 billion. Thus the decline from 0.95 percent in 1981 to 0.84 percent by 1996 means that in the most recent year the federal government spent about $1.87 billion less on higher education than it had in 1981, expressed as a proportion of all federal expenditures.

The federal investment is probably best described as a fairly stable one between the late 1970s and 1996, particularly when compared to the decline in state and local government support for higher education during this same period. The published NIPA data, however, obscure the huge shift in federal student financial aid from non-repayable grant assistance to repayable educational loans where principal, fees and interest on the unpaid balance must be repaid by the borrower. The College Board publication *Trends in Student Aid* provides a clearer description of this shift from grants to loans than does the published NIPA data.

Higher Education's Share of
Expenditures of the Federal Government
1952 to 1996



Personal Consumption

The third leg of the financing stool on which higher education is supported is what individuals pay to institutions for their higher educations. For public institutions the NIPA tabulate student payments of tuition. For private institutions the NIPA tabulate:

> ... current expenditures (including consumption of fixed capital) less receipts-such as those from meals, rooms, and entertainments-accounted for separately in consumer expenditures, and less expenditures for research financed under contracts or grants.

The NIPA quite erroneously calls this personal consumption--we call it investment because of its obvious extraordinary financial and non-financial returns to both individuals and society.

The expenditure history of individuals for tuition and fees is as follows, in billions:

1952	$1.0
1960	$2.0
1970	$6.6
1980	$16.5
1990	$44.0
1996	$65.2

Expressed as a proportion of all personal consumption expenditures, higher education payments by individuals grew sharply between the early 1950s and 1971, from 0.46 percent in 1952 to 1.07 percent in 1971 and 1972. It declined from 1972 through 1978, and rose again to 1994. Between 1994 and 1996 higher education's share of personal consumption has remained flat, at record high levels, at 1.25 percent of the total.

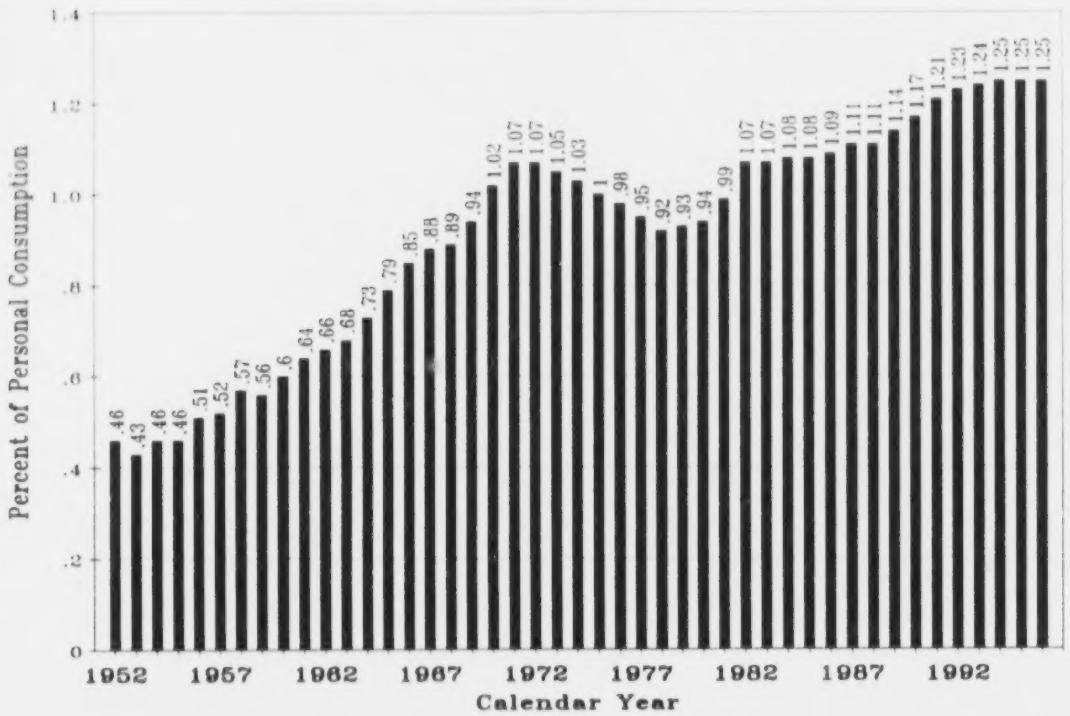
This overall growth is the result of both many more people enrolled in higher education and higher real charges for higher education services.

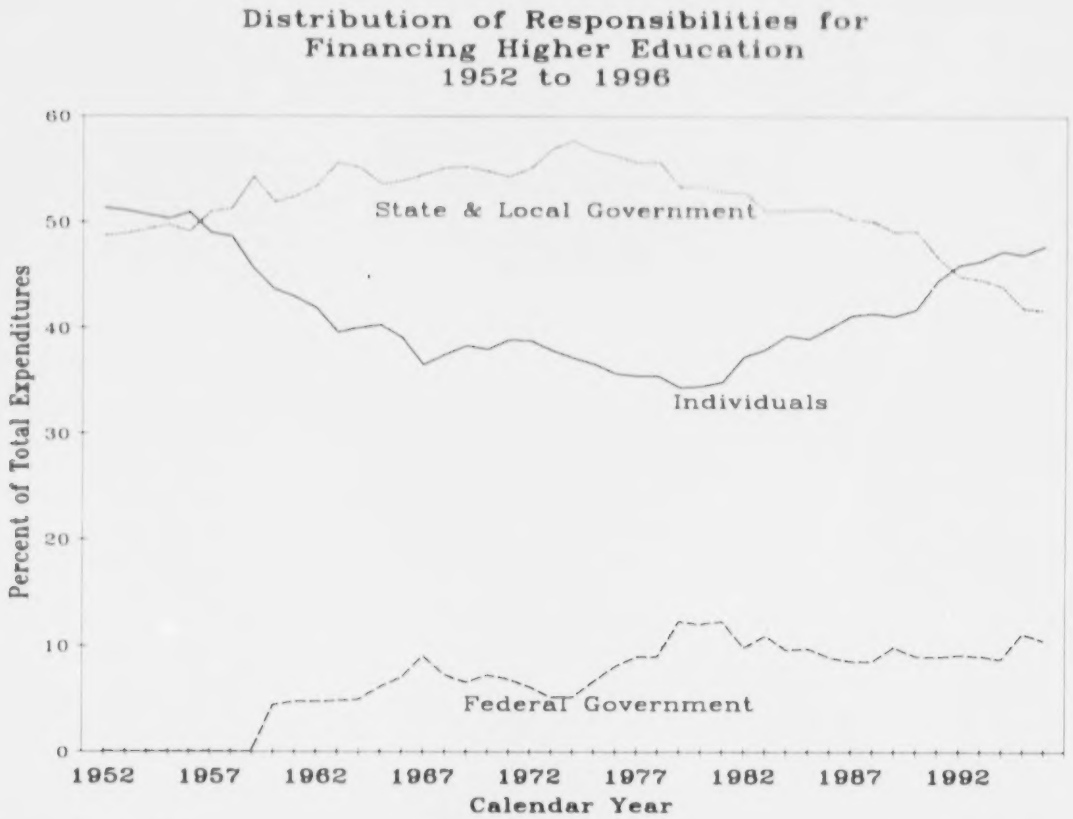
For example, The following table represents the proportion of the U.S. population between the ages of 18 and 39 that were enrolled in college:

1952	4.2%
1961	8.0%
1970	14.3%
1980	14.8%
1990	15.4%
1994	16.7%

Clearly, most of the growth in higher education participation occurred prior to 1970. Much of the personal consumption expenditures for higher education growth that occurred after 1980 was the result of (state) government cost-shifting from taxpayers to students.

Higher Education's Share of
Personal Consumption Expenditures
1952 to 1996





Shifting Shared Responsibility

The National Income and Product Accounts provide a useful way of examining the system of shared responsibility for financing higher education at a highly aggregated level. Here one cannot break down what is happening in specific states, nor can one distinguish in these data public and private higher education. Nevertheless, the broad patterns and trends of shared responsibility are clear in NIPA accounts.

The chart on this page shows the proportion of total higher education expenditures paid by the three participating parties in finance on a year basis between 1952 and 1996. Two broad eras are evident in these data, with several important smaller eras also illustrated.

The two broad eras are from 1952 to 1980, and between 1980 and 1996.

- During the first era, social investment in higher education--from state and local, and from federal taxpayers-- increased. The social investment share of higher education expenditures grew from 48.7 percent in 1952, to a peak of 65.3 percent in 1980. Charges to students made up the balance.
- During the second era, between 1980 and 1996, the social investment share declined to 52.2 percent of the total. Again students made up the balance.

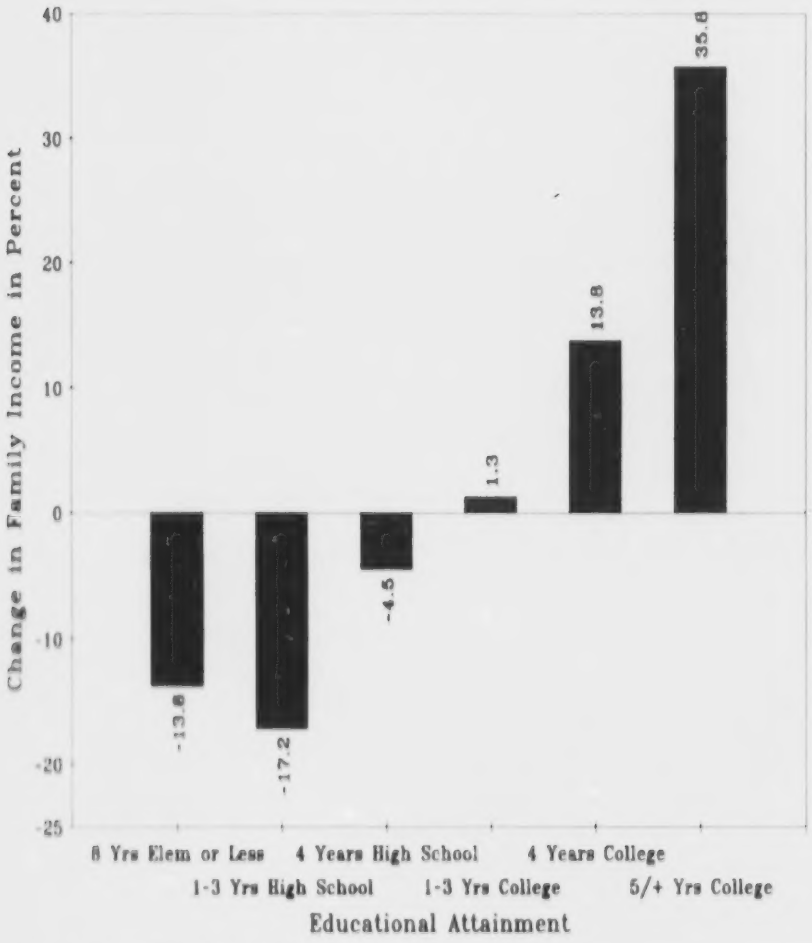
These two broad eras generally describe patterns in cost-shifting. During the first era, costs were shifted from students (and their families) to taxpayers. During the second era this reversed and since 1980 costs have been shifted from taxpayers back onto students. In 1996 we are about where we were in 1958 in terms of shared responsibilities for financing higher education between society and students.

But there are several important mini-eras included in the two broad eras. Briefly, they are:

- Between 1952 and 1960 the federal government was not yet a player in financing higher education.
- Between 1974 and 1980, the declining share of higher education finance provided by the states was more than offset by the growth in federal financial support for higher education.
- Between 1989 and 1996 the cost shift from taxpayers to students has accelerated compared to the 1980 to 1989 era. This is mainly caused by the accelerating reduction in state financial support for higher education.

The cost shift from taxpayers to

Change in Average Family Income by Educational Attainment of Householder Between 1973 and 1996



students between 1980 and 1996 can be measured directly from the NIPA data. Compared to the 1980 allocation of effort, by 1996:

- State taxpayers were providing $16.3 billion less,
- Federal taxpayers were providing $1.5 billion less, and
- Students and their families were providing $17.8 billion more for higher education.

Adequacy of Total Investment

This broad-stroke picture of the financing and refinancing of higher education has many, serious implications for public policy and welfare. We review them here only briefly.

While higher education appears to have been important to national civic welfare even from colonial times, periodically we have been reminded of its importance for other reasons. Higher education contributes profoundly to national security and economic prosperity. And since about 1973 higher education has increasingly determined who prospers and who suffers in an economic sense.

As the chart on the left shows clearly, family income--and the living standards that family income represents--have been aggressively redistributed since 1973 according to the educational attainment of the head of the household. The real incomes of families headed by persons with college educations have increased on average, while incomes for families headed by persons without college educations have decreased. The more higher education, the greater the increase in real incomes. And generally, the less education the greater has been the decline in real incomes between 1973 and 1996.

We interpret this income redistribution as a direct reflection of the growing imbalance of demand for and supply of workers at different levels of educational attainment. Real incomes have declined where the labor market is oversupplied, in this case with less educated workers. Real incomes have increased where there is a relative shortage of workers with the highest levels of education.

Despite important gains in the educational attainment of the workforce between 1973 and 1996, these gains have fallen short of the even greater gains required by changes occurring in the economy. At the high end of the educational attainment scale, real growth reflects shortages. At the low end of the educational attainment scale, real decline reflects surpluses.

Thus, we conclude that the total investment in higher education, expressed as a proportion of Gross Domestic Product (page 3) is inadequate for the higher educated and trained manpower needs of the economy. During an economic era of increased demand for higher educated workers, the flat investment in higher education since 1971 has been inadequate for the economic development needs of the economy.

A Reauthorization Agenda for Students from Low Income Families

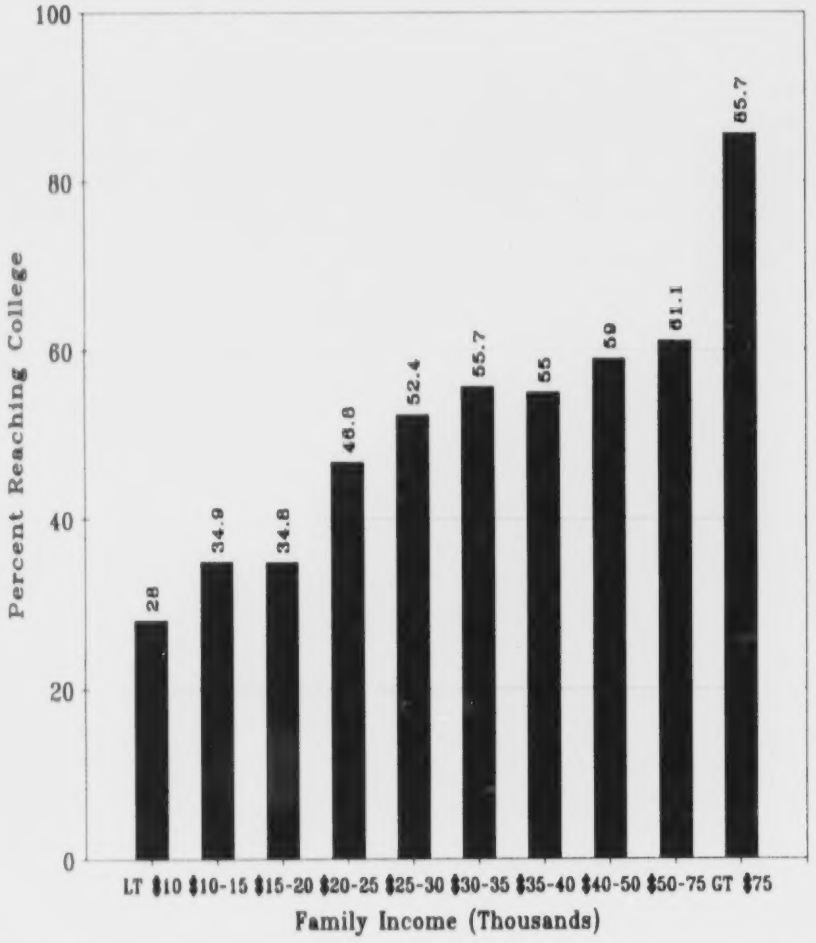
Reauthorization of the federal Higher Education Act of 1965 is currently well underway in Congress. Under this law are authorized the federal students financial aid programs that assist millions of financially needy students to help pay their college attendance costs. Additionally, outreach efforts to recruit, prepare and support students from low income family backgrounds are authorized under federal TRIO programs.

Numerous organizations have prepared proposals to address specific needs and concerns they see in the student populations they serve. Most of these proposals are clearly in broad public interests--a few seem to serve more parochial interests. The Department of Education has recently released its own proposals for reauthorization of programs under the Higher Education Act.

What we have not yet seen are certain broad proposals that address serious unmet needs of students from the lowest income families. By lowest family income, we mean roughly those students whose family incomes fall in the bottom quartile of the family income distribution, or below about $25,000 per year. These students:

- Come from families with lowest levels of parental educational attainment,
- Are least likely to have taken a college prep curriculum in high school,
- Score lowest on the ACT and SAT college admissions test,
- Graduate from high school at the lowest rates,
- Continue their educations in college after high school at the lowest rates, and
- Are least likely to complete their higher educations through the bachelor's degree for those that enter college.

Chance for College Among 18 to 24 Year Old Dependent Family Members by Family Income 1995



We have discussed their needs with several national organizations and the Department of Education. But our ideas have not been included in their own reauthorization proposals. So we offer them here, as our own.

Our proposals are of two types:

financial aid and **outreach**. Both policy interest areas have been included in the Higher Education Act since its beginning, and both currently are located within Title IV.

- The financial aid proposals address gaping holes in the existing system of measuring the financial need for students from low income family backgrounds, and of financing that need.

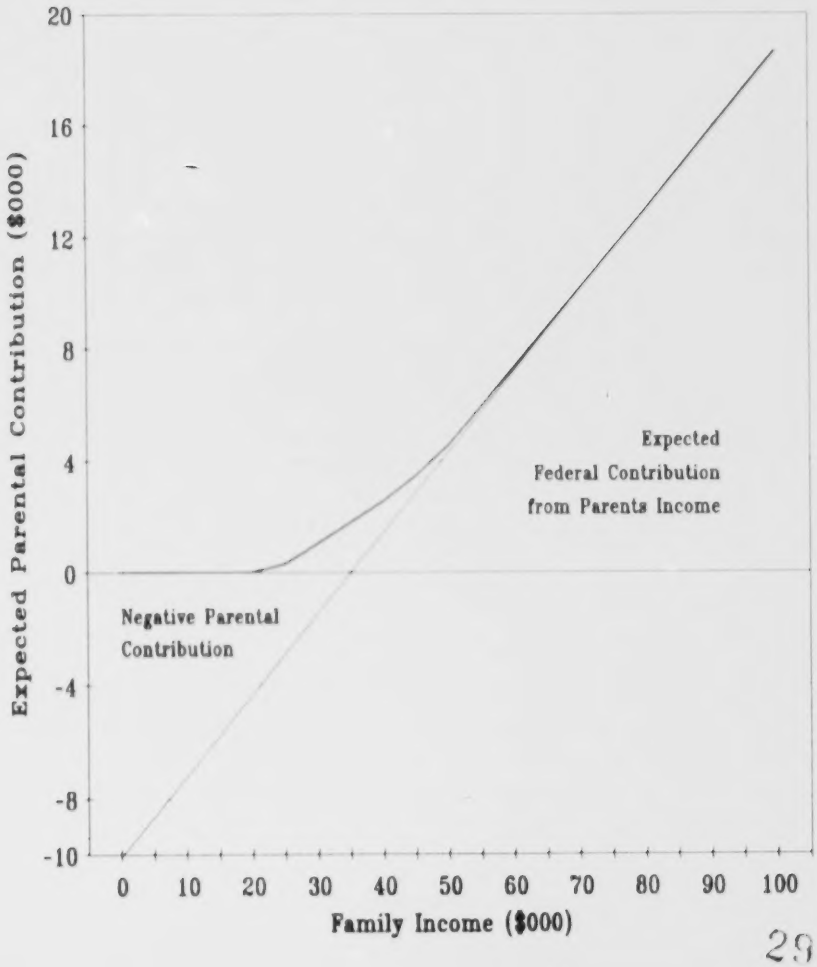
- The outreach proposals are less specific, but are similarly designed to address the chasm that exists in the preparation for college and support of these low family income students compared to their more affluent peers from higher family income backgrounds.

For the most part these proposals are designed to extend the higher education opportunities enjoyed by students from higher family income backgrounds to those from lowest income families along the principles of fairness and effectiveness.

Proposal 1: Change Federal Methodology to calculate a negative expected family contribution in needs analysis.

This proposal is for the calculation of negative expected family contributions for dependent students from very low income family backgrounds, below about $20,000 per year in family income. A similar change should be made for independent students from correspondingly very low levels of independent student income backgrounds.

The Missing Negative Parental Contribution
in Federal Needs Analysis
1997-98



Currently in federal needs analysis, when negative contributions are found in intermediate calculation steps, a decision rule converts these negative values to zero. That is to say, if family resources required to provide minimal family food, shelter, health care, etc., fall below a federally-defined minimum, a negative value is calculated that indicates the family cannot live at this minimum standard. Whenever this occurs, the federal decision rule converts such negative values to zero.

Needs analysis begins from the position that families have the first responsibility to finance their higher educations of their own children from family resources. Where family resources are inadequate to finance all college attendance costs, the remaining financial need becomes the responsibility of the financial aid system to complete the financing of college attendance costs.

Among the guiding principles of needs analysis are the principles of vertical and horizontal equity.

- The principle of vertical equity holds that students from families with different levels of financial resources (income and assets) should be expected to provide different levels of funding for the education of their children. Students from families with more resources should be expected to provide more for the education of their children than should students from families with lesser levels of resources.
- The principle of horizontal equity holds that students from families with similar levels of resources should be expected to provide similar levels of financial support for the education of their children.

In practice these equity principles are only applied to students from middle income families--those with sufficient resources to provide at least some

resources to the financing of their own childrens' educations. This is a legacy of the origins of the institutions that first created needs analysis for their own purposes, to make financial aid awards to students from middle income families. But this practice is also a reflection of a considered federal policy judgement not to confuse student aid with public aid. That is: the role of Aid to Families with Dependent Children (AFDC) was to maintain the family while student aid was to help students finance college attendance costs.

In practice there was good reason for confusion as low income students were sometimes reported to have used their financial aid to support their families, particularly when the student had played a bread-winner's role in supporting the family prior to entering college. Financial aid for the student has been used to buy groceries or pay rent for the family of the student attending college.

But now, Aid to Families with Dependent Children no longer exists. It was replaced in 1997 by a new program called Temporary Assistance to Needy Families (TANF), which limits the period of eligibility for family support. Thus, the federal policy justification to keep separate family maintenance through AFDC from student assistance no longer exists.

In addition, Jon McGee, Vice President for Research at the Minnesota Private College Council, has found that among dependent students from very low income families, the student's substantial earnings used to support his/her family can knock the student out of eligibility for federal student aid. To quote from Jon's recent e-mail to OPPORTUNITY:

> Expected family contribution is the sum of parent contribution and student contribution for dependent students. There are many instances (thousands in Minnesota) where the student's contribution takes a family out of Pell Grant eligibility even though the family income is very low. Tax rates on student earnings and savings are very high. We have estimated that a student who earns $7 an hour (not difficult in the Twin Cities labor market), working 30 hours per week (also not unusual), 40 weeks per year, and has managed to sock away $1000 in savings, would have an expected contribution that puts him or her out of range for a Pell Grant, irrespective of their parents income. In Minnesota, about 3,300 dependent students whose parents make less than $30,000 receive state grants but not Pell Grants because of the students' earnings and savings (Minnesota state grants are built only on parent contribution.)

What this proposal means is this: for students from very low income families, cost of attendance would be the sum of what is normally considered COA *plus* the negative expected family contribution from need analysis. This would require financial aid packaging beyond traditional COA for full-need students.

If social policy is to retain its commitment to eliminating financial barriers to higher educational opportunity, and the principles of vertical and horizontal equity are to be used to guide the design of the Federal Methodology for students from low income families in the same way that it has been applied to students from middle income families, then the practice of converting negative values to zero in determining the expected family contribution for students from very low income families must be stopped.

Proposal 2: Make President Clinton's Hope Tuition Tax Credit refundable.

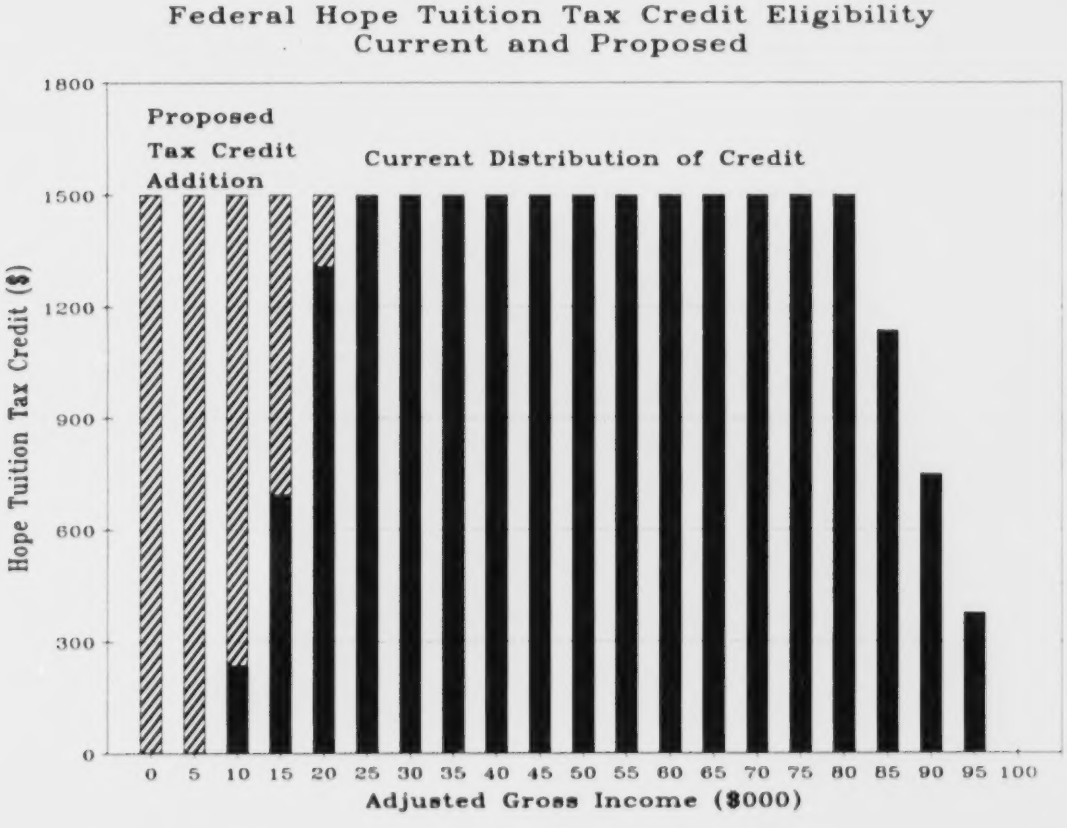
For the first time in federal policy history, a new federal student financial aid program was created in 1997 that deliberately excluded students from lowest family income backgrounds from program eligibility. On August 5, 1997, President Clinton signed into law the Taxpayer Relief Act of 1997 which contains the federal income tax credit provisions sometimes called Hope Scholarships.

President Clinton's Hope Tuition Tax Credits provide up to $1500 in federal income tax credits for students from families filing joint returns with adjusted gross incomes between about $25,000 and $80,000, and up to $40,000 for single filers. Above these levels, the benefits are phased out, and reach zero at $100,000 of AGI for joint filers and $50,000 for single filers.

Below the lower end of the AGI range where families would qualify for the full $1500 tax credit, the credit is also phased out. For families filing joint returns, the Hope Tuition Tax Credit is gradually reduced to zero between $25,000 and $10,000 of AGI. Students from lowest family income backgrounds, below about $10,000, are not eligible for these benefits.

Patterned on the Georgia HOPE Scholarship Program--which also deliberately excludes students from lowest income family programs, for free tuition benefits--the federal program is not driven by financial need. Thus, those who are most obviously needy, are excluded, while others, who may not be needy at all, may qualify for the Hope Tuition Tax Credit.

The proposal we make here is make



the Hope Tuition Tax Credit refundable. That is, even for low income families that pay little or no federal income taxes, the $1500 paid to families with far greater incomes should be made available to those families with the least resources to finance their higher education of their children.

In fact, if colleges somehow manage to raise the price of attendance by $1500 to capture the Hope Tuition Tax Credit for those families that receive it, the lowest income families that did not receive the credit will by $1500 further in the hole than they would have been if the Hope Tuition Tax Credit had net been adopted in the first place.

As a matter of fundamental fairness, this grievous, mean-spirited act should be redressed by making Hope Tuition Tax Credits refundable to those from lowest income families whose federal income tax liability is less than $1500.

Proposal 3: Add state and institutional resources to the federal Pell Grant to fund very much larger Pell Grant maximum awards.

This is a proposal to increase funding for the Pell Grant maximum award to at least $6000.

Since the mid 1970s, the federal government has been gradually substituting loans for grants as the major approach to financing higher educational opportunity. Educational loans presumably cost the federal government less than do grants to financially needy students.

However, loans are not substitutes for grants for students from low income family backgrounds. These students are most likely to be loan-averse--loans are more properly described as barriers to higher educational opportunity, rather than vehicles to opportunity as they are for needy students from more middle income family backgrounds. Students from low income family backgrounds often make educational loan avoidance decisions that impact their opportunities for higher education, including: choosing a lower priced institution, working more hours while enrolled in college, reducing credit loads, deferring enrollment, etc.

The purchasing power of the Pell Grant maximum award for students from the lowest income families has declined sharply since the end of the 1970s. Between 1976 and 1979, the Pell Grant maximum award covered 70 to 80 percent of institutional

charges (tuition, fees, room and board) in an average cost public 4-year institution, and about 35 percent of average costs in an average cost private 4-year institution. Currently the Pell Grant maximum award covers about 35 percent of average institutional charges in an average cost public 4-year institution, and about 12 percent at a private institution.

Here are some benchmarks for considering not only what an appropriate Pell Grant maximum award could or should be, but also whose responsibility it might be to restore some of its lost purchasing power:

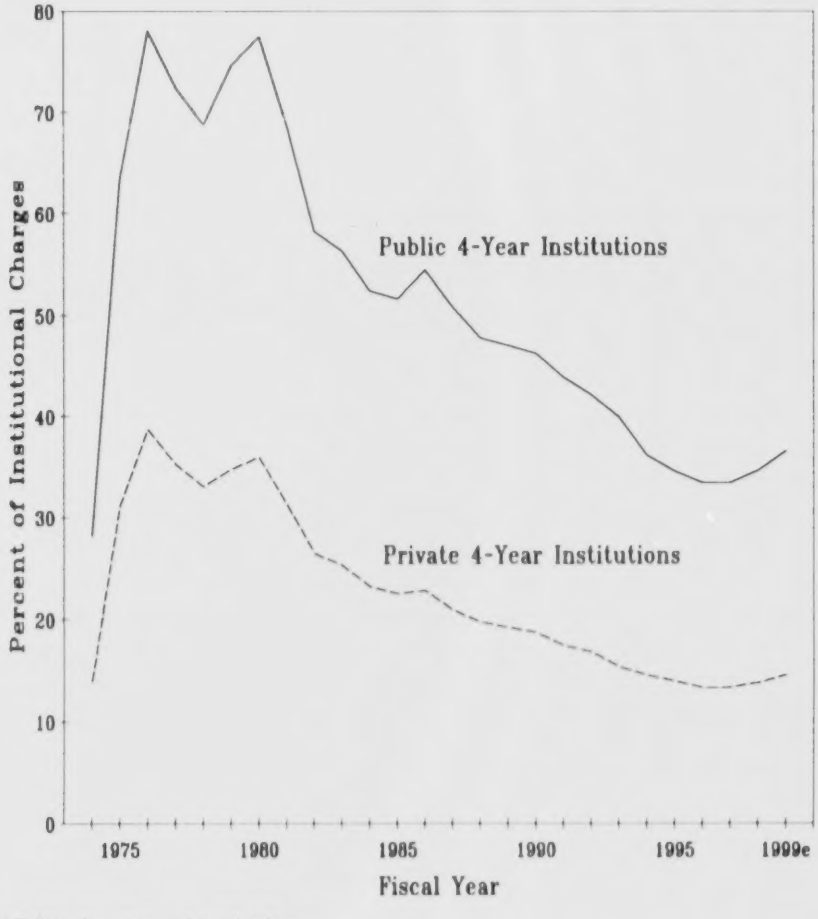
Current maximum award	$2700
If increased at CPI since 1979-80, it would be	$3979
If increased at HEPI* since 1979-80, it would be	$4521
Currently authorized maximum	$4500
If increased to cover same share of public 4-year institutional charges since 1979-80, it would be	$6030
If increased to cover same share of private 4-year institutional charges since 1979-80, it would be	$7052

*HEPI is the Higher Education Price Index, a price deflator more closely resembling the service nature of higher education.

If these benchmarks are appropriate reference points for considering larger Pell Grant maximum awards, then here is scheme for combining federal and state dollars to provide far larger Pell Grants to needy students. The key principle here is leveraging, or using federal dollars to bring state and private institutional resources into the financing of very much larger Pell Grants for needy students.

Base grant. The federal government serves a vital function by providing a secure foundation upon which students in every state and territory of the United States can begin to finance their higher educations. Because the Pell Grant has already been funded at a maximum award of $3000 for the 1998-99 academic year, we would establish and fix this at this level. Henceforth, the minimum Pell Grant that a student with a zero expected family contribution could qualify for would be a $3000 award.

Proportion of Institutional Charges* Covered by Pell Grant Maximum Award 1973-74 to 1998-99e



* Tuition, fees, room and board only.

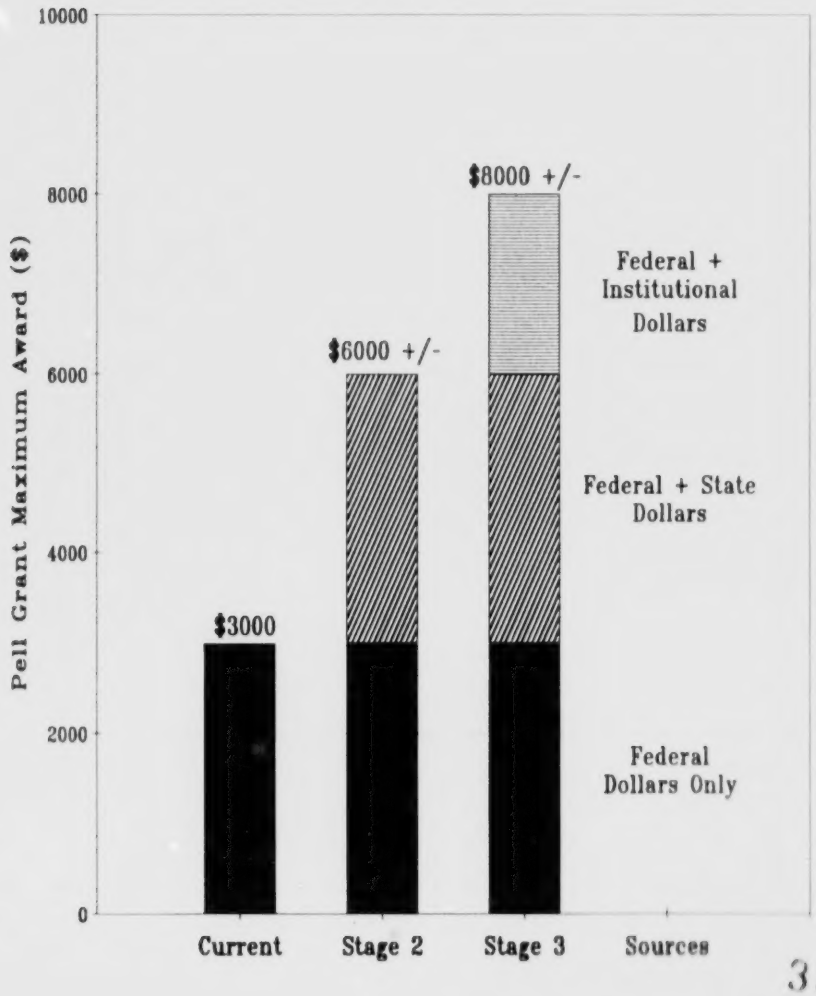
Leveraging state resources. The collapse of the purchasing power of the federal Pell Grant maximum award can be attributed in very large part to the withdrawal of state resources for higher education since 1980 (see previous article on the National Income and Product Accounts).

This withdrawal has been accompanied by immediate and large increases in the tuitions charged students in public institutions to offset this loss in state appropriations. Generally, the states have simply walked away from their historic role in financing higher education for their own young citizens. If college affordability is ever to be effectively addressed, the states must be re-engaged in the financing of higher education, at least for their neediest citizens.

For this reason we propose to restore the Pell Grant maximum award to the purchasing power it enjoyed in the 1970s at public 4-year colleges and universities, or to about $6000. To pay for this $6000 maximum Pell Grant, we propose that state resources be used to match increased federal funding on a dollar-for-dollar basis above the $3000 base.

The federal share--half of the $3000 increase--would come from federal funding of the authorized maximum award of $4500. This would address the huge disparity between the Congressional promise of a Pell Grant maximum award that kept up with inflation (measured by the HEPI) and what Congress has funded. This disparity first occurred in the 1980-81 school year when funding permitted a maximum Pell Grant of $1750 while the authorized maximum was $1800. This gap between authorized and funded Pell Grant maximum awards has grown to $3300 in 1997-98. Its about time Congress delivered what it has promised. The federal budget deficit no longer provides cover for failing to do so.

Financing Larger Pell Grant Maximum Awards by Leveraging State and Institutional Funds



However, the federal funds should only be provided to those states that are willing to re-engage state resources in the financing of higher education to their own needy citizens. Clearly the federal government should not be left with sole responsibility for higher educating college students of any state. It can't, and it shouldn't be expected to do so. The bulk of social investment in higher education has always come from the states, not the federal government. The retreat in state financing of higher education between 1980 and 1996--measured at $16.3 billion by 1996 in the NIPA analysis--should be re-engaged in this most valuable state activity.

What we propose is a dollar-for dollar federal-to-state matching effort to increase Pell Grant maximum funding from $3000 to a potential of about $6000. This would be achieved only in those states that were willing to meet the federal matching incentive under the targeting criteria of the federal Pell Grant program on truly financially needy students. Some states that barely offer state funds to meet the matching funds and maintenance of effort criteria of the State Student Incentive Grant program would probably offer little, and pass on this significant federal offer. Other states, with large state need-based grant programs would almost certainly provide funds to maximize the federal contribution to their own financially needy students.

Operationally, the dollar-for-dollar match of federal and state funds above $3000 would mean that by $6000 $4500 would be provided by the federal government while $1500 would be provided by state governments.

Depending on the participation of the states, if some states choose to participate at low levels, federal funds might be available to fund much larger Pell Grants in other states. In New York, Vermont, Illinois, New Jersey,

and other states with significant state grant programs a Pell Grant maximum of $7000 or more could be achieved with dollar-for-dollar matching.

Leveraging private institutional resources. Institutions should also be given the opportunity to receive federal funds on a dollar-for-dollar matching basis to further increase the Pell Grants received by their own financially needy and Pell-eligible students.

Over the last twenty years, federal student financial aid has shifted from primarily grants to primarily loans. The justification for this shift was that loans are less costly to the federal government than are grants. Supposedly, loans cost the federal budget only about half of what grants cost to provide a dollar of aid to a student. (We dispute this justification, both as a matter of effectiveness and on the basis of loan program costs for students from low income family backgrounds. But that is an argument for another day.) During an era of federal budget deficits and growing national debt, maintaining and expanding the dollars available to students was deemed a higher federal budget priority. That justification, of course, no longer applies.

However, we have demonstrated here how a dollar of federal student grant assistance can provide two dollars worth of grant assistance to students from low- and lower-middle income family backgrounds by leveraging state and institutional funds. Thus, the loan burden which has fallen especially hard on students from lowest family income backgrounds could be alleviated by this approach. The source of the second dollar for student aid would come primarily from states, and secondarily from institutional resources, but not from the after-college incomes of students from lowest income families.

Proposal 4: Create a seamless web of outreach and supportive precollege services for students from low-income and/or first generation families.

This proposal seeks to addresses the non-financial handicaps that students from low-income/first-generation backgrounds bring with them to higher education. This proposal seeks to address these handicaps before they reach college. These handicaps include academic, cultural, attitudinal, aspirational, and other conditions that are addressed through counseling, tutoring, mentoring, experiential and other intervention strategies

As colleague John Lee has said, poverty has many friends, and wherever poverty goes it brings these friends with it. Data presented in past issues of OPPORTUNITY has shown that students from low-income family backgrounds are least likely to have college-educated parents to guide them to college, they live in the poorest neighborhoods that are least likely to support preparation for higher education, they attend the poorest financed schools that are least likely to offer a college preparatory curriculum, they tend to score the lowest on college admissions exams like the ACT and SAT, they are least likely to have saved money for college, they graduate from high schools at the lowest rate, they enroll in college at the lowest rate, they tend to enroll in the colleges with the lowest rate of success in graduating students through the bachelor's degree. There are certainly extraordinary people who survive these barriers to college graduation, but on the whole these factors all work against students from low income family backgrounds.

And student financial aid incentives, no matter how great, cannot overcome these barriers. These barriers require a different public policy response.

There are many public and private initiatives to address poverty's associates. The federal government provides over $500 million per year to fund college preparatory and support programs like Upward Bound and Talent Search. Estimates are that these programs reach 5 to 7 percent of the low income/first generation population. There are major state outreach programs in a few states, like New York, New Jersey, Pennsylvania, Indiana and Wisconsin. But most states lack these state initiatives. There are also major community-based outreach programs like the Cleveland Scholarship Programs and Baltimore's CollegeBound Foundation. But there are huge gaps between these programs and most students from low-income families are never reached.

Moreover, these programs begin relatively late, usually in high school. The truly early intervention programs like WIC and Head Start, stop early, leaving gaps in time. Many states are now showing interest in supportive programs for the first three years of life. But between Head Start and junior high, many services lapse.

There are two major gaps, one in time and the other in coverage, that leave all children unprotected. By international standards, America does a poor job of protecting its children through public policy (See http://www.unicef.org/pon96/indust4.htm). It might be too much to expect for America to do as much for our children and their futures as do other countries, but lack of resources is no excuse. Only lack of vision, leadership, and compassion seem to explain our collective indifference.

The pre-college outreach models exist--at the federal, state and community levels. What is missing is a commitment to fill in the gaps in time and coverage required to prepare low family income students for college.

Competition for State Appropriations in FY1998

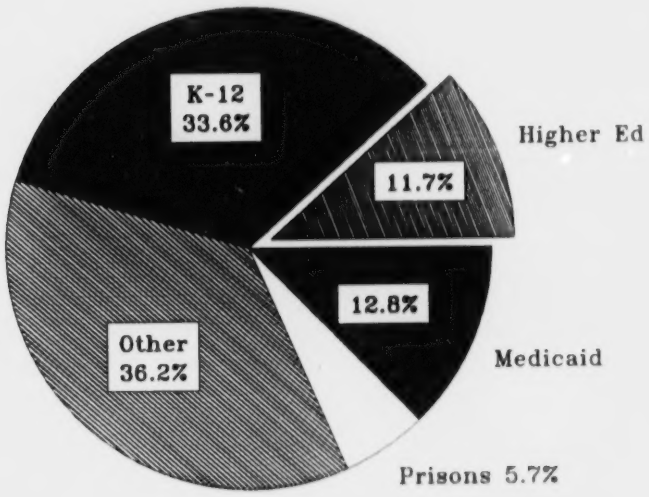
The annual report on state appropriations prepared by the National Conference of State Legislators (NCSL) and the National Association of State Budget Officers (NASBO) provides and early review and useful insights into state budget priorities. Here one can see on a yearly, state-by-state basis how the competition for state resources shakes out--the winners and losers.

Since 1980 state funding for higher education has been losing out to other competing demands for state resources. The main winners have been corrections and Medicaid. And for the last four years, state tax cuts and accumulation of budget surpluses have displaced higher education's historic budget priority as well. All have been more important to governors and legislators than has state funding of higher education. These patterns, trends and priorities have been nearly universal across the states.

For public colleges and universities, the reduction in state funding has led directly to higher student charges. Institutions have tried to replace lost state support with revenues from students. Of course, not all students can afford these higher charges. And in most states, state government has simply walked away from taking any responsibility for covering these increased student charges for students from financially needy low- and middle-income families. Most states have, by default, delegated the affordability responsibility to the federal government and its need-based student financial aid programs.

State General Fund Appropriations Shares
FY1998

Total: $407,095,600,000



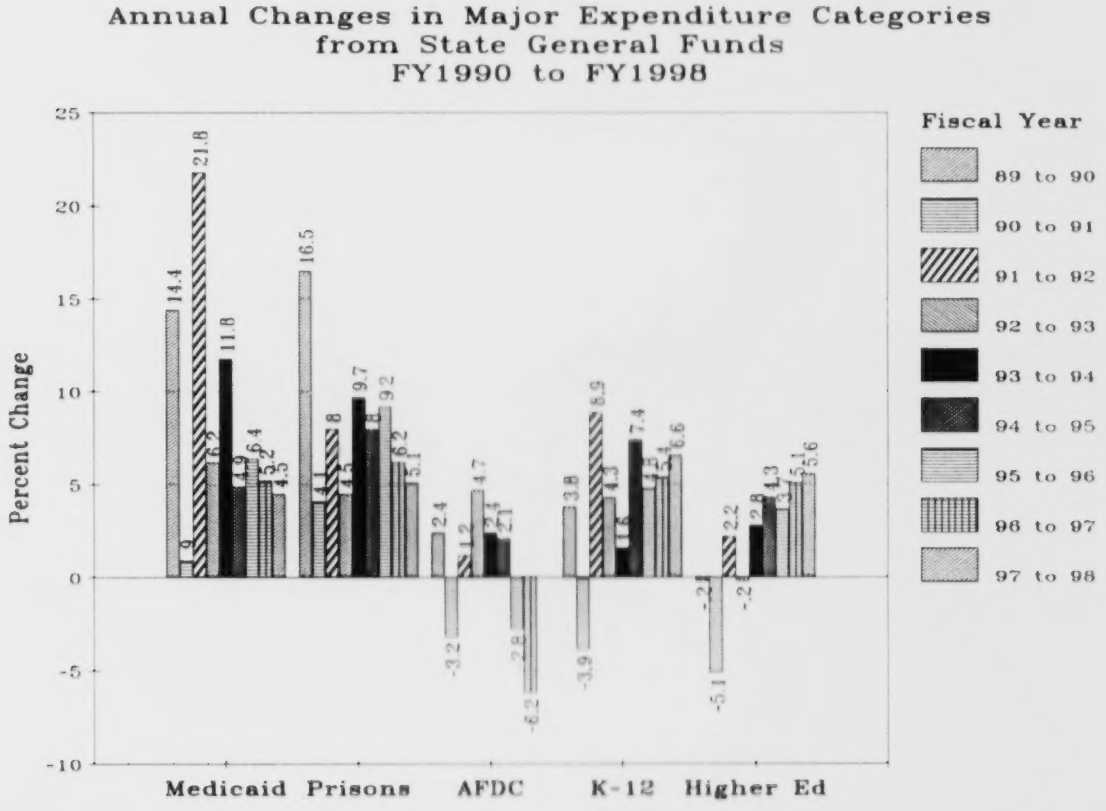
The long economic expansion of the 1990s has produced boom times for state revenues. These prosperous times have resulted in both steady year-to-year increases in state appropriations for higher education as well as moderation in annual increases in tuition charges to students. However, as the analysis of the National Income and Product Account data earlier in this issue of OPPORTUNITY and our November 1997 analysis of state tax fund appropriations for higher education make clear, there has been no restoration of state funding for higher education to offset the nearly twenty years of declining state support.

Here we lay out this story in more detail, with two valuable early surveys of state funding priorities that permit us to look at the competition for state budget resources.

The Data

For the last 16 years the National Conference of State Legislatures has conducted a survey and published an annual report on state budget actions. This survey is prepared in cooperation with the National Association of Legislative Fiscal Officers. The resulting report provides an overview of state finances, focusing on state general fund budgets and selected categories of spending. This year's report covers the 50 states and Puerto Rico. Copies of this report are available for $35.00 from NCSL in Denver at (303) 830-2200.

Eckl, C., and Perez, A. (December 1997). *State Budget Actions 1997.* Denver, CO: National Conference of State Legislatures.



In this report, we are particularly interested in the relationship of state funding of higher education to other state budget priorities on a state-by-state basis, and our report reflects that interest.

In addition, some of the data reported here were taken from the annual state fiscal survey report of the National Governors' Association and the National Association of State Budget Officers. Copies of their report may be obtained for $25.00 by calling NASBO at (202) 624-5382.

The Fiscal Survey of States. (December 1997). Washington, DC: National Governors' Association and National Association of State Budget Officers.

FY1997 State Finances

By any measure state finances are in excellent shape, probably better than they have been at any time since the late 1970s. Year-end balances, as a proportion of General Fund expenditures, were higher at the end of FY1997 than they had been for any year since FY1980. The FY1997 state general fund and rainy day fund balances were 7.3 percent of revenues. This was well above Wall Street analysts' recommendation of a 5 percent reserve, and only the fourth year since FY1980 that reserves reached 5 percent.

The growth in year-end-balances occurred when revenue growth exceeded projections. Projected growth was 2.8 percent, while actual growth was 6.0 percent. Instead of revenue growth of $10 billion, the final number proved to be $22 billion.

How did states use this growth? The followed various paths:

Reduced taxes	18
One-time expenditure increases	14
Funded capital projects	13
Increased reserves	11
Created reserves	4
Reduced state debt obligations	3
Other	13

FY1998 State Finances

The budget debate in states for FY1998 was what to do with the money: save, spend or return the funds. The choices were not easy in some states. Ultimately, revenue growth was conservatively projected to be 3 percent over FY1997 collections. General fund appropriations were increased by 5.5 percent.

FY1998 State Appropriations Compared to FY1997

Rank	State	Higher Educ	K-12	Prisons	Medicaid	Projected Budget Surplus
1	Nevada	32.7%	0.5%	14.7%	24.3%	14.4%
2	North Dakota	12.9%	9.3%	47.1%	10.0%	5.1%
3	Missouri	10.7%	4.9%	27.5%	5.8%	1.9%
4	Mississippi	10.3%	7.4%	10.8%	7.9%	7.5%
5	Minnesota	10.1%	0.5%	-0.6%	13.2%	6.8%
6	Louisiana	9.9%	2.7%	1.8%	48.4%	0.0%
7	Texas	8.8%	12.6%	0.4%	5.6%	1.8%
8	Virginia	8.7%	4.8%	4.6%	2.5%	2.6%
9	Florida	8.5%	6.0%	0.5%	6.6%	4.7%
10	Kentucky	8.4%	3.2%	10.7%	5.6%	3.6%
11	Arizona	8.1%	8.7%	7.0%	6.2%	15.0%
12	Indiana	8.1%	3.0%	15.1%	2.8%	15.0%
13	Oklahoma	8.1%	6.5%	19.5%	6.1%	7.0%
14	Connecticut	7.9%	5.2%	-0.6%	-2.3%	3.6%
15	Oregon	7.8%	19.8%	14.5%	7.3%	2.4%
16	North Carolina	7.5%	9.7%	11.7%	1.8%	5.7%
17	Massachusetts	6.7%	12.6%	-1.6%	18.3%	5.9%
18	California	6.7%	9.6%	4.4%	0.9%	1.3%
19	South Carolina	6.4%	6.0%	-0.8%	10.7%	3.2%
20	Delaware	6.3%	9.9%	8.4%	2.1%	7.8%
21	New York	6.2%	4.7%	3.9%	0.8%	3.9%
22	Ohio	5.9%	7.4%	7.5%	14.2%	8.2%
23	Colorado	5.4%	5.5%	12.9%	5.6%	8.9%
24	Wisconsin	5.1%	4.7%	17.3%	5.0%	2.5%
25	Arkansas	5.1%	6.6%	20.8%	3.7%	0.0%
26	Puerto Rico	5.0%	4.5%	10.9%	128.3%	0.2%
27	Washington	4.8%	3.6%	8.1%	4.1%	4.4%
28	New Hampshire	4.7%	40.1%	3.9%	5.7%	1.2%
29	New Jersey	4.7%	9.0%	-0.4%	-0.9%	3.3%
30	Michigan	4.0%	4.7%	1.8%	0.0%	15.6%
31	Hawaii	4.0%	3.6%	10.8%	-11.3%	2.3%
32	Idaho	3.8%	3.8%	9.4%	-1.1%	3.8%
33	West Virginia	3.7%	3.9%	0.0%	-7.4%	2.9%
34	Vermont	3.7%	8.0%	2.7%	4.1%	5.2%
35	Rhode Island	3.4%	6.2%	5.2%	6.4%	3.0%
36	Nebraska	3.3%	4.1%	16.2%	7.2%	13.8%
37	Maryland	2.9%	8.0%	1.3%	2.8%	7.5%
38	Utah	2.7%	1.1%	15.4%	5.1%	2.4%
39	South Dakota	2.3%	24.5%	14.8%	-6.4%	3.5%
40	Maine	2.1%	3.7%	8.7%	-2.3%	5.7%
41	Pennsylvania	2.1%	1.8%	2.6%	2.2%	2.5%
42	Iowa	1.4%	5.3%	12.7%	4.2%	9.8%
43	Kansas	1.3%	13.0%	5.4%	4.2%	9.2%
44	Alabama	1.1%	6.4%	4.4%	2.0%	0.0%
45	Illinois	0.6%	3.5%	9.5%	1.9%	3.3%
46	Montana	0.1%	3.7%	21.9%	6.0%	2.1%
47	Wyoming	0.0%	0.0%	0.0%	0.0%	5.4%
48	Tennessee	-0.4%	7.3%	-0.5%	11.8%	1.6%
49	New Mexico	-0.5%	3.9%	-6.4%	1.2%	8.6%
50	Georgia	-1.2%	4.2%	4.1%	1.3%	3.0%
51	Alaska	-2.0%	1.3%	-2.6%	0.4%	119.2%
	TOTAL	5.6%	6.6%	5.1%	4.5%	5.1%

Education generally fared well in the appropriations process. Higher education received a 5.6 percent increase, while K-12 education received a 6.6 percent increase. By comparison prisons received a 5.1 increase and Medicaid 4.5 percent.

Across the states the change ranged from +32.7 percent in **Nevada**, to -2.0 percent in **Alaska**. However, since inflation (CPI) was 2.3 percent between 1996 and 1997, the actual total appropriations increase was 5.6% - 2.3% = 3.3%. Thirty-nine states had real increases.

Measured in this way, 12 states had decreases in state general fund appropriations for higher education between FY1997 and FY1998. The largest reductions were:

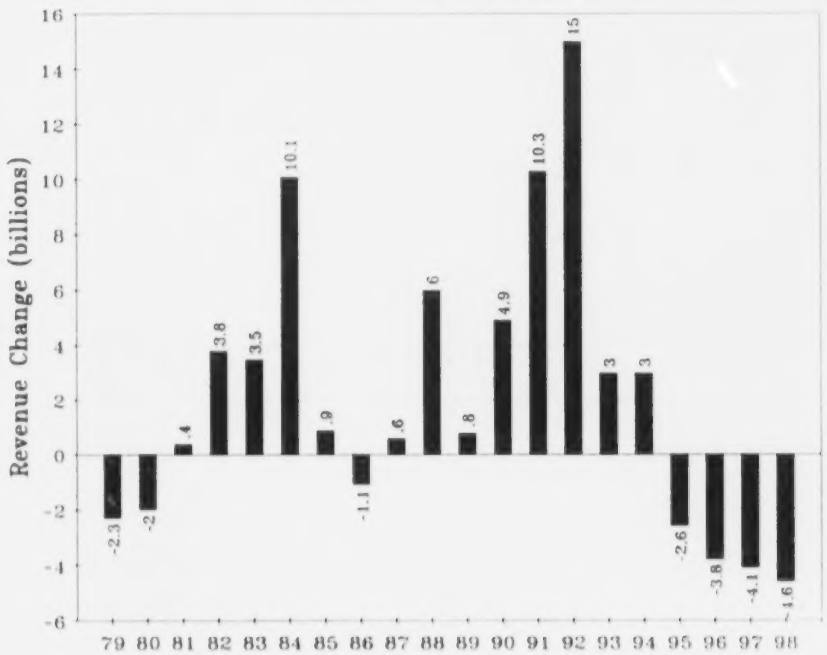
Montana	-2.2%
Wyoming	-2.3%
Tennessee	-2.7%
New Mexico	-2.8%
Georgia	-3.5%
Alaska	-4.3%

Competition for State Funds

Higher education fared relatively well in FY1998 state appropriations. The percentage increase for FY1998 over FY1997 was larger than for any prior fiscal year in the 1990s. Moreover, higher education received a larger percentage increases than did corrections or Medicaid.

But from other perspectives the picture is not so rosy. State tax fund appropriations per $1000 of state personal income for higher education (as reported in OPPORTUNITY last November) did not increase--they held constant compared to FY1997. Thus, the best that could be said of FY1998 is that state funding paused in the long downhill slide that began after FY1980. The damage done was not repaired by the FY1998 state appropriations.

Enacted State Revenue Changes FY1979 to FY1998



Besides K-12 education, which received a larger percentage increase in FY1998 than did higher education, other state budget priorities have emerged in recent years. They include cutting state revenues and building state budget reserves.

FY1998 was the fourth year in a row that states enacted net state revenue reductions, as shown in the chart on this page. Not all states reduced state revenues, just 31 of them did. By far the largest dollar reduction was **New York** where state revenues were reduced by $1.9 billion, or over 40 percent of the national total. Other states with large revenue reductions included **Florida** (-$528 million), **Minnesota** (-474 million), **Ohio** (-302 million), **Georgia** (-$222 million) and **Pennsylvania** (-216 million).

The 50 state plus Puerto Rico tally of revenue changes by type enacted for FY1998 was (in millions):

Sales tax	-$671.4
Personal income tax	-$3,454.1
Corporate income tax	-$280.5
Cigarettes/tobacco	+$118.7
Motor fuels	+$462.0
Alcohol	-$4.7
Other taxes	-$982.8
Fees	+$231.4
Total	-$4,581.0

State budget reserves for FY1998 are projected to decline compared to FY1997, largely because of notably conservative revenue projections. Having been burned by too optimistic revenue forecasts in the early 1990s, forecasters have grown cautious. However, year end balances, expressed as a percent of expenditures have grown steadily between FY1991 and FY1997, rising to record levels by FY1997. If the economy remains robust, the projected decline for FY1998 is likely to produce another record budget reserve.

FY1998 could have been better for higher education. But it could have been worse too, as it has been for nearly two decades.

15th Annual NASSGAP/NCHELP Financial Aid Research Conference

April 23-25, 1998, Albuquerque, New Mexico

The annual student financial aid research conference will be held April 23 through 25 at the Hyatt Regency Hotel in Albuquerque, New Mexico. The Conference is sponsored by the NASSGP/NCHELP Research Network, a national association of practitioners and consumers of research and policy analysis on student financial aid and related matters. Network members include representatives from national organizations, state and federal agencies and postsecondary institutions.

Presentations scheduled for the conference include the following:

- Analyzing College Costs: Research and Policy Issues
- Plain Talk about College Costs and Prices
- What Students and Parents Say about College Costs
- Tuition Discounts, Institutional Aid and Scholarship Allowances
- A New Conceptual and Empirical Approach to Modeling the Relationship between Student Financial Aid and Tuition
- An Undergraduate's Dilemma: To Work, Borrow, or Both
- Critical Challenges in Financing Professional Education: Student Borrowing, the Job Market and Other Major Trends
- Forbearance Outcomes: Does Forbearance Help Borrowers Avoid Default?
- The Utility of the Internet and Web Sites in Financial Aid Research
- Role of NSLDS in Management of Title IV Programs: Data Quality Improvements
- Development of a Student-Based Research Sample for the NSLDS
- What Students Know about Debt
- Factors Associated with College Disadvantage
- Affirmative Action Policies
- What Do Institutions and Borrowers Really Think about Direct Lending
- Student Satisfaction with the Federal Aid Application Process
- What is Quality in the Administration of Financial Aid
- The Department of Education's Strategic Planning for Postsecondary Education
- Student Loan Borrowing Patterns and Debt Since 1989-90
- Results of the National Student Loan Survey
- Characteristics and Repayment Patterns of New York FFELP Borrowers
- Education Loan Debt and Repayment Burdens
- The Challenge to Schools to Prevent Defaults and Maintain Access to Higher Education

Registration packets for the conference are available from:

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The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

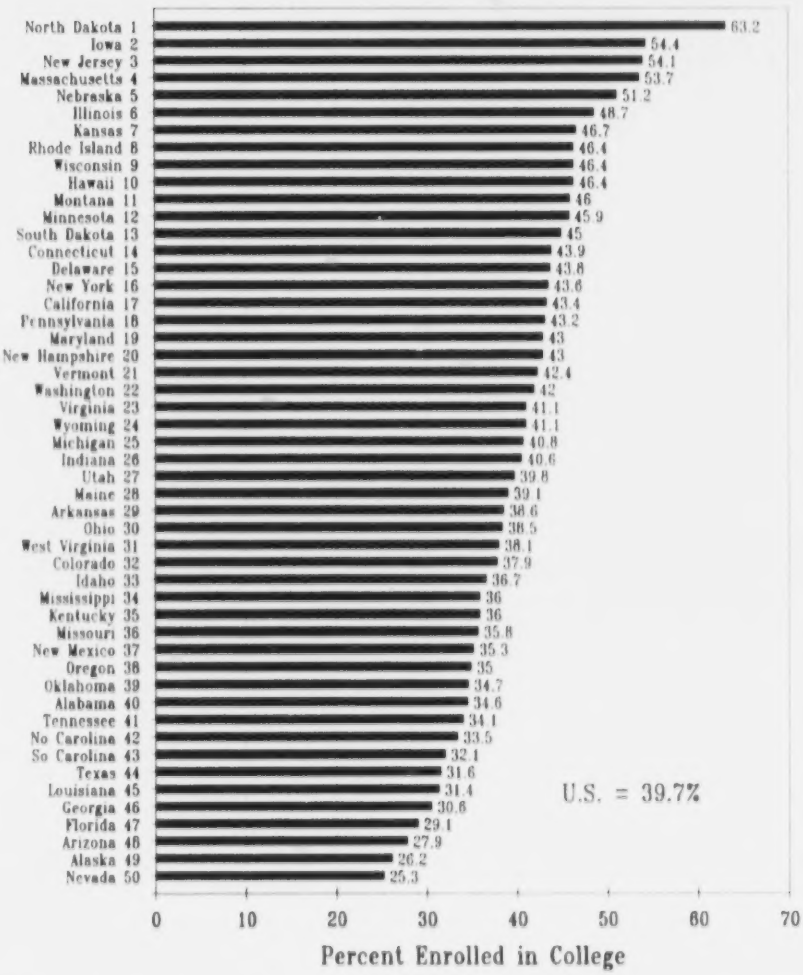
Number 69 **Oskaloosa, Iowa** **March 1998**

Chance for College by Age 19 by State in 1996

In the fall of 1996 39.7 percent of all 1995-96 high school graduates were enrolled in college. This was down slightly from the 1994 rate of 40.0 percent, but was above the 1992 rate of 38.2 percent and was well above the 1986 rate of 31.5 percent. The 1996 data generally extend long term trends of declining public high school graduation rates and increasing college continuation rates for those who do graduate from high school. These two trends, in combination, work to widen already wide and widening income disparities in the United States.

In 1996 a nineteen year old's chances of being enrolled in college varied widely across the states. A nineteen year old in ***North Dakota*** *was nearly two-and-a-half times more likely to be enrolled in college (63.2 percent) than was another nineteen year old in* ***Nevada*** *or* ***Alaska*** *(about 26 percent). Those states where 19 year olds had the greatest chance to be enrolled in college had both high high school graduation rates and high college continuation rates. In those states where 19 years olds were least likely to be enrolled in college, both high school graduation rates and college continuation rates were relatively very low.*

Chance for College by Age 19
by State, 1996



Given the extraordinary importance of higher education to the ultimate welfare of individuals, families, communities, states and the nation, this wide range in the success (or lack thereof) across states is important. It says that education is more important to the people of some states than it is in others. It says that some states have a far better understanding of the importance of education to the welfare of their citizens than do other states.

In this analysis, chance for college is

the product of the rate at which students graduate from public high schools times the rate at which all high school graduates continue their educations in college the fall following their graduation from high school. While both public high school graduation rates and college continuation rate data are presented in this analysis, we are mainly interested in their product.

- Some states have high college continuation rates, but low high school graduation rates. We believe these states have built education systems on weak foundations.
- Other states have stronger K-12 education systems than higher education systems. This too falls far short of the unyielding labor market requirement for college educated or trained workers.

In fact, the states that rank in the top tier of the states on the measure of chance for college by age 19 do both well. They have both high rates of public high school graduation, as well as send these graduates off to college at high rates. Likewise, those states that rank in the bottom tier of the states do a poor job of both graduating their students from high school and a poor job of sending these graduates off to college. The young people of these states are not being prepared for the better paid jobs available in the economy, and generally the futures of these states are not promising unless and until these human capital deficits are addressed in other ways.

The Data

All of the data used in this analysis have been reported recently by the National Center for Education Statistics (NCES), based on data reported to NCES by the states. We are grateful to Vance Grant and Jonaki Bose of the NCES staff for their guidance in selecting the most recent and complete published data on public high school graduates. We are also grateful to Sam Barbett of NCES for his work compiling and reporting the essential college freshman residence and migration data used in this study.

The **public high school graduation rate** is the number of 1995-96 regular public high school graduates divided by the number of ninth grade students enrolled in public school in the fall of 1992. The number of ninth graders enrolled in public schools was reported by NCES in the *1995 Digest of Education Statistics*, p. 57. The most recent estimate of 1995-96 public high school graduates was published in:

McDowell, L. M. (February 1998). *Public Elementary and Secondary Education Statistics: School Year 1997-98*. NCES 98-202. Washington, DC: National Center for Education Statistics.

This publication is available for download at:

http://nces.ed.gov/pubs98/98202.pdf

These data do not permit the calculation of a high school graduation rate for all of a state's ninth grade population because we lack ninth grade enrollments in non-public schools. The actual high school graduation rate could be higher in those states that have substantial non-public high school populations. For the country, in 1995-96 10.0 percent of all high school graduates were produced by non-public high schools. The states with the largest proportions of non-public high school graduates in 1995-96 were:

Delaware	20.9%
Connecticut	19.7%
Louisiana	18.1%
Massachusetts	18.0%
Hawaii	17.1%
New York	16.9%
Vermont	16.4%

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Rhode Island	15.8%
Pennsylvania	15.2%
New Hampshire	15.0%

In these states, the missing non-public school data could lead to the underestimate of the state's high school graduation rate.

The **college continuation rate** for each state is the number of fall 1996 college freshmen enrolled anywhere in the U.S. from that state who were 1995-96 public or private high school graduates for the state.

The number of 1995-96 high school graduates for each state is the sum of the NCES-reported number of regular public high school graduates plus this author's estimate of the number of 1995-96 private high school graduates. These estimates were prepared based on previously published NCES and Census Bureau data on private high school graduates.

The number of fall 1996 college freshmen from a state, who were 1995-96 high school graduates, is the sum of those enrolled in a state's colleges and universities plus those that left the state to enroll in college in another state. These data are obtained through the biennial IPEDS enrollment survey that collects data on residence and migration of college freshmen. Data used in this study were downloaded from the NCES website in the report:

Residence and Migration of First-time Freshmen Enrolled in Degree-Granting Institutions: Fall 1996. (March 1998). NCES 98-277. Washington, DC: National Center for Education Statistics.

Public High School Graduation Rate

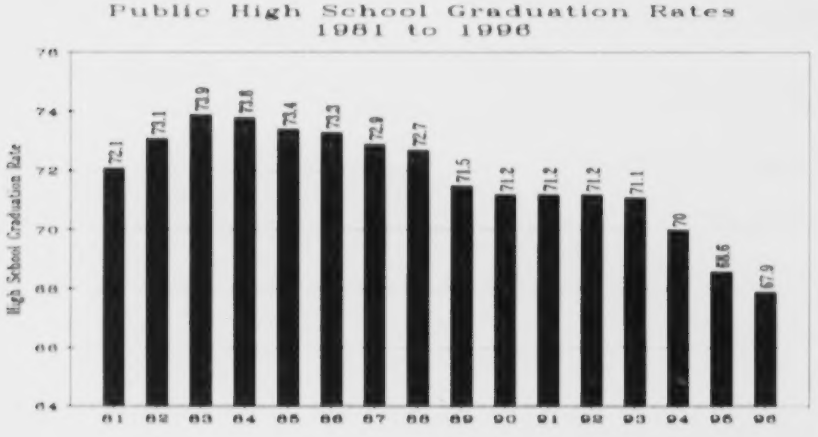
In 1996 the public high school graduation rate was 67.9 percent. Across the 50 states, of the 3,346,763 fall 1992 public school ninth graders, just 2,272,104 became regular high school graduates in 1995-96. That leaves 1,074,659 unaccounted for.

The 1996 public high school graduation rate of 67.9 percent was down from 68.6 percent in 1995, and 70.0 percent in 1994. In fact the public high school graduation rate has been declining steadily from a peak of 73.9 percent in 1983. Moreover, the rate of decline has accelerated since 1993. Over the ten year period between 1983 and 1993 the rate declined by 2.8 percent. Then, between 1993 and 1996, it declined by 3.2 percent.

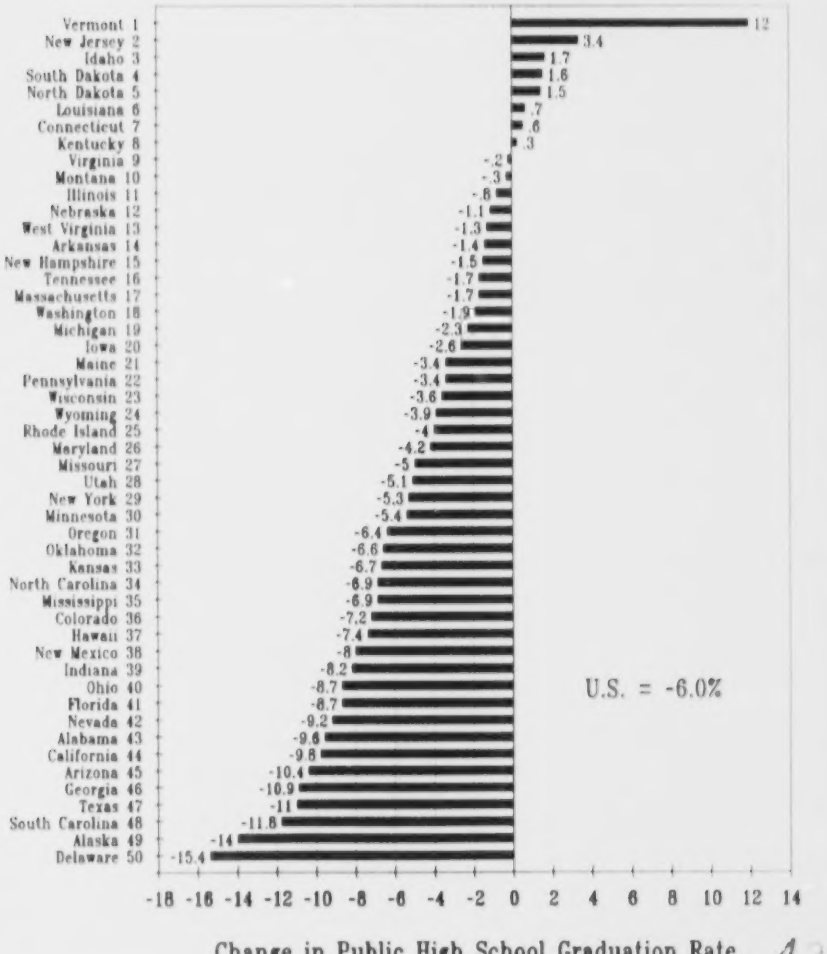
We have written about increasing high school attrition previously (May 1997). The phenomenon appears to be widespread--occurring in both genders and all major racial/ethnic groups--but appears to be drawing little public discussion and no policy attention.

We have also found that this problem affects most states. Between 1983 and

Public High School Graduation Rates By State, 1996



Change in Public High School Graduation Rates by State Between 1983 and 1996



1996 public high school graduation rates increased in eight states, and declined in the remaining 42 states. The increase was greatest in **Vermont**, where the public high school graduation rate increased from 77.9 to 89.9 percent. The decrease was greatest in **Delaware** where the public high school graduation rate declined from 81.2 to 65.8 percent between 1983 and 1996.

College Continuation Rate

In the fall of 1996 58.5 percent of all public and private 1995-96 high school graduates were enrolled in college. Out of 2.525 million high school graduates 1.478 million were enrolled in college.

Across the 50 states, there were wide variations in the rate at which high school graduates went directly on to college. In two states--**New York** and **North Dakota**--71 percent of all recent high school graduates were enrolled in college the fall following high school. **Massachusetts** had an only slightly lower rate.

There is a long-term stability to these rankings, although numbers are in constant fluctuation and cohorts of students change from year to year. **New York**, for example, ranked first in both 1992 and 1994 in the rate at which recent high school graduates enrolled in college. **North Dakota** ranked third in 1994 and second in 1992. **Massachusetts** ranked fourth in 1994 and tenth in 1992.

At the other extreme, **Nevada** had a college continuation rate of just 38.7 percent--or close to half the rate of the leading states. **Alaska** stood with Nevada at the bottom of the ranking in 1996, just as they did in 1994 and 1992.

The college continuation rate for recent high school graduates has increased over the last decade. For

the five available years, the rate has been:

1986	43.0%
1988	47.7%
1990	data not released
1992	53.6%
1994	57.2%
1996	58.5%

This pattern suggests some slowing in the growth rate between 1994 and 1996, but the trend is consistently, sharply upward through 1996.

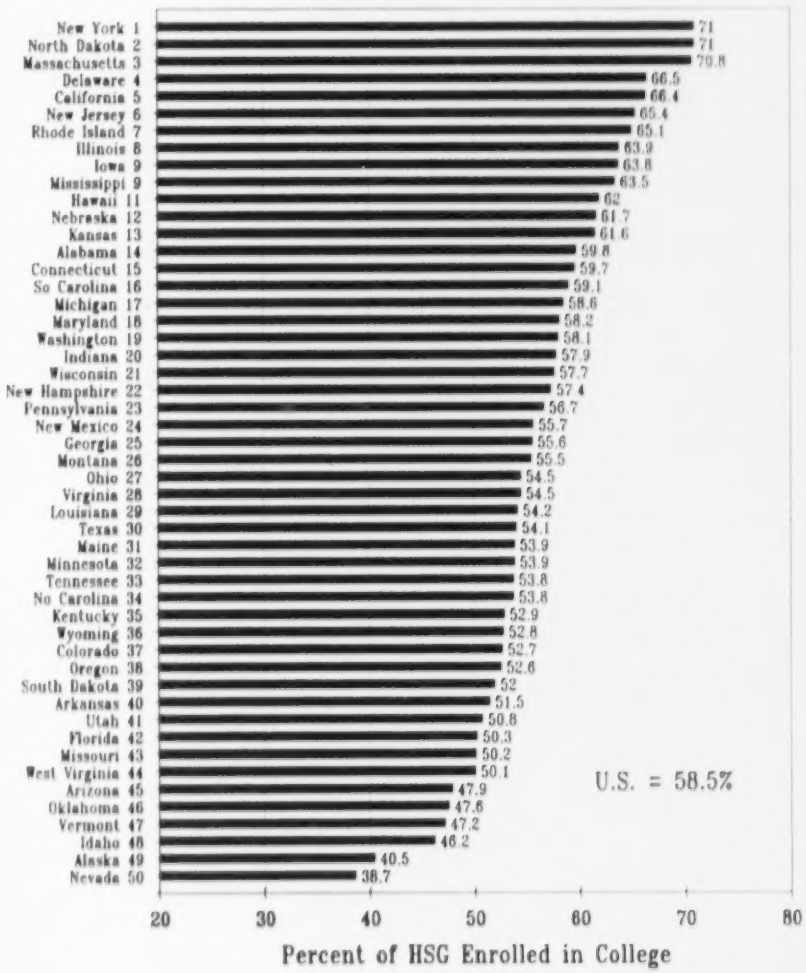
We have tried to construct credible estimates of the changes on college continuation rates over time. We wish to see where progress has been made, and where progress is missing. To do this we are confounded by certain obvious problems in the completeness of the state data on enrolled college freshmen. Most of these problems are in the 1986 and 1988 data, such as for **Colorado, Maine, Montana** and **Utah**. Therefore we have limited our examination of changes within states to the 1990s data, particularly between 1992 and 1996. Even here, the **Kentucky** data for 1992 are obviously deficient, and we have therefore dropped Kentucky from this comparison.

Between 1992 and 1996, the rate at which high school graduates were enrolled in college the following fall increased in 40 states, held constant in one state, and declined in the remaining eight states.

The largest gains in the college continuation rate between 1992 and 1996 were recorded in **South Carolina, California** and **Massachusetts**. In each of these states the rate increased by between 12 and 16 percent.

At the other extreme, the college continuation rate declined the most in **Vermont**, by 8.5 percent. This is the state known for its extraordinarily high public institution tuition rates and stingy state appropriations for higher education. Other states where measured college continuation rates declined between 1992 and 1996 were **Oklahoma, Idaho, Wisconsin, Oregon, Nebraska, Utah** and **Washington.**

College Continuation Rate
by State, 1996



Chance for College by Age 19

The product of each state's public high school graduation rate and its college continuation rate for all high school graduates is the state's chance for college by age 19. This is our best estimate of the proportion of each state's 19 year olds that were enrolled in college in the fall of 1996. Note that they may be enrolled anywhere in the United States, not just in their home state.

In 1996 chance for college by age 19 ranged from 63.2 percent in **North Dakota**, to 25.3 percent in **Nevada**. These data are shown in the chart on page 1 of this issue of **OPPORTUNITY**.

To rank at the top of the list, a state needs to have both high high school

graduation rates as well as high college continuation rates for those high school graduates. North Dakota ranked second among the states on both measures in 1996. **Iowa**, which ranked second on the proportion of its 19 year olds enrolled in college, ranked fourth on high school graduation and ninth on college continuation. **New Jersey**, which ranked third on the proportion of its 19 year olds enrolled in college (anywhere, because so many students leave that state to attend college), ranked seventh on high school graduation and sixth on college continuation.

At the other extreme, states with a relatively low proportion of their 19 years olds enrolled in college also have both low high school graduation and college continuation rates. Nevada, for example, ranked thirty-sixth among the states on high school graduation and fiftieth--dead last--on college continuation. **Alaska**, with a nearly identical result, ranks thirty-eighth on high school graduation and forty-ninth on college continuation. There is abundant and clear reason why these two states are nearly tied for last place in enrolling their 19 years olds in college.

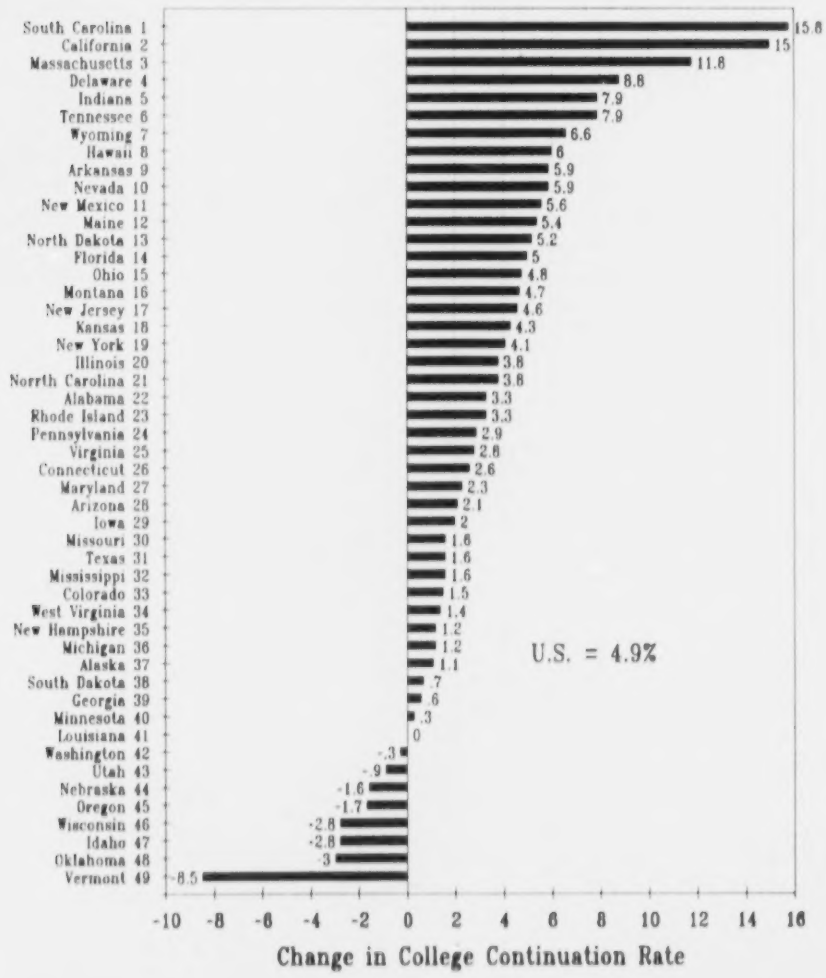
Some states have made great progress in increasing the proportion of their 19 year olds enrolled in college. Other states have lost a great deal of ground. Because of the problems in some states' completeness of reporting residence and migration data on college freshmen in the 1980s, this analysis is limited to the better data of the 1990s, particularly between 1992 and 1996. (Even so, we have still dropped Kentucky from this analysis for incomplete data reporting in the 1992 IPEDS enrollment survey.)

The chart on page 7 shows the change in the proportion of each state's 19 year olds enrolled in college between 1992 and 1996. The chance for college increased in 26 states, but decreased in 23 others. The range is wide, from an increase of 8.1 percent in **California** to a decrease of 5.4 percent in adjacent **Arizona.**

The states with the largest gains--California and **Massachusetts**--were both mired in economic recession in the early 1990s, and the sharp increase between 1992 and 1996 is likely due at least in part to economic recovery in those states. Two other states stood out from the rest with unusually large increases: **South Carolina** and **North Dakota**. These states accomplished this by maintaining public high school graduation rates (which were declining elsewhere) while sharply increasing the rate at which their high school graduates enrolled in college.

In addition, the states with the largest losses between 1992 and 1996 were **Oregon, Georgia, Nebraska, Oklahoma, Vermont** and **Wisconsin.** While there is no common patterns among these states, either the public high school graduation rate decline or the decline in the college continuation rates in these states caused their poor performance.

Change in College Continuation Rates by State Between 1992 and 1996



Conclusions

The enrollment behaviors reported here occur in the context of changes in the economy that require ever greater levels of educational attainment. These changes have been underway since 1973. Those who get college education will get the best jobs in the labor force, and those who get a high school education or less will get what is left. The real incomes of college graduates are going up, while those of high school graduates are going down.

Among the findings in these data are:

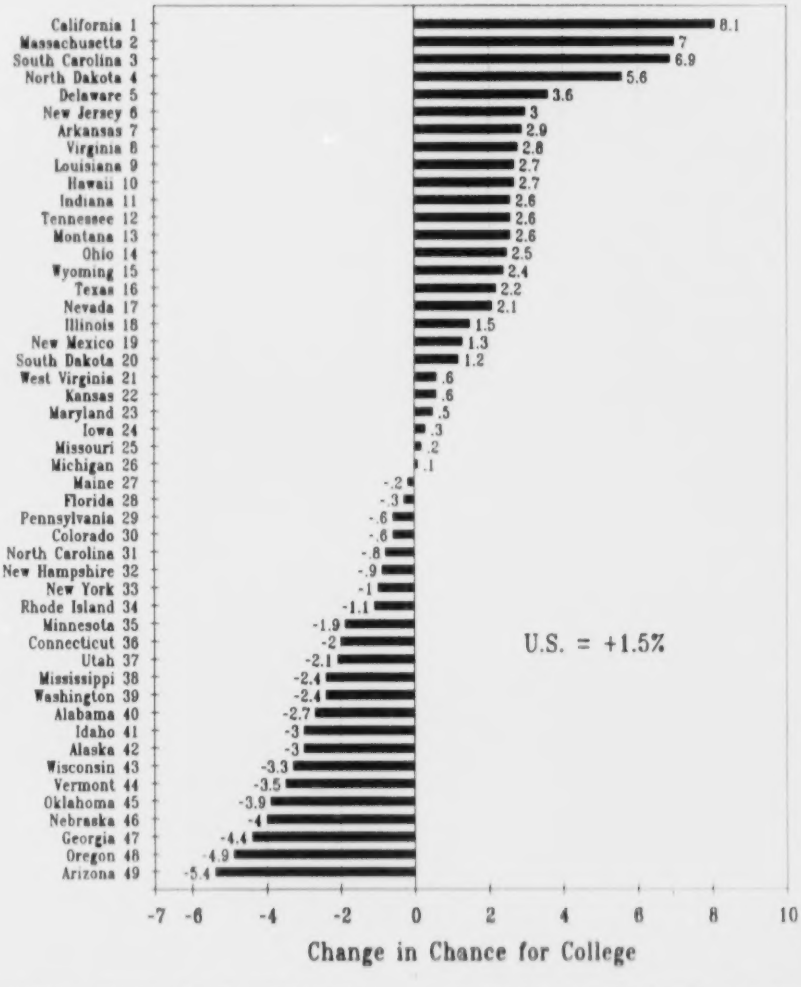
- Public high school graduation rates have been declining since 1983, and the rate of decline has increased since 1993.
- The college continuation rate, for those who do graduate from high school has increased significantly between 1986 and 1996.

Together these two trends feed the growing national trend toward income inequality. The best educated get earn more with their higher educations, while the least educated get poorer without the education required to get and hold decent paying jobs.

Across the 50 states, the differences in educational preparation for this labor market are remarkable. A nineteen year old in **North Dakota** is nearly two-and-a-half times as likely to be enrolled in college compared to a nineteen year old in **Nevada**. Perhaps the North Dakotan will someday move to Nevada in search of a job. But in doing so he or she will displace the unqualified Nevada native in competition for the best paying jobs that are available there and then.

Those states that rank low on the proportion of their 19 year olds reaching college are clearly in trouble. They are doing an inadequate job of preparing their young citizens for their own futures as well as the states' futures. These states include **Nevada, Alaska, Arizona, Florida, Georgia,**

Change in Chance for College by Age 19 by State Between 1992 and 1996



Louisiana, Texas, North and South Carolina, Tennessee, Alabama and others. In some cases the problem is in the K-12 system, in others it is in access to the higher education, and in many it is in both. Two of these states, **Arizona** and **Georgia** rank among the three states that have lost the most ground between 1992 and 1996 in improving the chance for college for 19 year olds.

Georgia's situation is particularly embarrassing because of the publicity it has sought for its HOPE Scholarship Program. HOPE may be changing enrollments in the South, but these data suggest that HOPE has done nothing to boost either high school graduation rates or college enrollment rates for Georgians.

States can acquire human capital educated elsewhere through migration. But those who grow up in a state--those for whom the states have most direct responsibility--are less likely to leave according to Census Bureau. States that rise to the challenge of preparing their youth for the workforce will prosper, while states that ignore this challenge will not.

Chance for College by State, State Summaries, 1986, 1988, 1992, 1994 and 1996

State	Public HS Graduation Rate					College Continuation Rate					Chance for College by Age 19				
	1986	1988	1992	1994	1996	1986	1988	1992	1994	1996	1986	1988	1992	1994	1996
Alabama	66.2%	74.1%	66.1%	60.1%	57.8%	37.8%	47.7%	56.5%	64.1%	59.8%	25.0%	35.3%	37.3%	38.5%	34.6%
Alaska	79.3%	69.8%	74.1%	70.8%	64.7%	19.9%	26.7%	39.4%	37.4%	40.5%	15.8%	18.6%	29.2%	26.5%	26.2%
Arizona	68.4%	66.6%	72.7%	63.8%	58.4%	42.9%	55.6%	45.8%	47.3%	47.9%	29.3%	37.0%	33.3%	30.2%	27.9%
Arkansas	78.2%	78.7%	78.3%	76.4%	74.9%	25.2%	41.4%	45.6%	48.2%	51.5%	19.7%	32.6%	35.7%	36.8%	38.6%
California	69.0%	68.5%	68.6%	66.3%	65.3%	58.7%	58.3%	51.4%	60.8%	66.4%	40.5%	39.9%	35.3%	40.3%	43.4%
Colorado	76.2%	76.5%	75.1%	74.9%	71.9%	11.0%	44.3%	51.2%	51.7%	52.7%	8.4%	33.9%	38.5%	38.7%	37.9%
Connecticut	87.1%	82.2%	80.4%	78.9%	73.5%	45.8%	49.2%	57.1%	58.6%	59.7%	39.9%	40.4%	45.9%	46.2%	43.9%
Delaware	70.7%	69.8%	69.6%	66.5%	65.8%	47.2%	43.2%	57.7%	65.1%	66.5%	33.4%	30.2%	40.2%	43.3%	43.8%
Dist of Col	60.7%	60.2%	62.8%	64.7%	53.2%	33.4%	31.8%	31.3%	71.3%	60.3%	20.3%	19.1%	19.7%	46.1%	32.1%
Florida	66.8%	63.0%	65.0%	59.3%	57.8%	44.6%	42.7%	45.3%	49.2%	50.3%	29.8%	26.9%	29.4%	29.2%	29.1%
Georgia	64.9%	63.4%	63.7%	59.4%	55.0%	42.6%	47.7%	55.0%	59.4%	55.6%	27.6%	30.2%	35.0%	35.3%	30.6%
Hawaii	83.2%	81.7%	78.1%	76.1%	74.8%	28.0%	45.8%	56.0%	61.7%	62.0%	23.3%	37.4%	43.7%	47.0%	46.4%
Idaho	79.9%	76.8%	81.1%	79.7%	79.6%	43.3%	32.3%	49.0%	48.0%	46.2%	34.6%	24.8%	39.7%	38.3%	36.7%
Illinois	77.9%	78.2%	78.6%	77.2%	76.2%	42.0%	53.1%	60.1%	63.6%	63.9%	32.7%	41.5%	47.2%	49.1%	48.7%
Indiana	76.2%	78.1%	76.0%	71.3%	70.1%	37.5%	44.8%	50.0%	55.0%	57.9%	28.6%	35.0%	38.0%	39.2%	40.6%
Iowa	87.3%	86.9%	87.6%	87.0%	85.3%	49.6%	57.5%	61.8%	64.1%	63.8%	43.3%	50.0%	54.1%	55.8%	54.4%
Kansas	84.6%	82.7%	80.5%	79.0%	75.8%	47.0%	52.8%	57.3%	57.2%	61.6%	39.8%	43.7%	46.1%	45.2%	46.7%
Kentucky	68.9%	69.1%	69.8%	75.5%	68.1%	39.4%	52.8%	16.4%	49.4%	52.9%	27.1%	36.5%	11.4%	37.3%	36.0%
Louisiana	61.7%	61.6%	52.9%	58.5%	57.9%	42.5%	41.3%	54.2%	53.4%	54.2%	26.2%	25.4%	28.7%	31.2%	31.4%
Maine	76.1%	77.7%	81.1%	74.0%	72.4%	23.5%	22.2%	48.5%	50.4%	53.9%	17.9%	17.2%	39.3%	37.3%	39.1%
Maryland	78.0%	76.1%	76.1%	74.7%	73.9%	40.9%	46.4%	55.9%	55.2%	58.2%	31.9%	35.3%	42.5%	41.2%	43.0%
Massachusetts	74.7%	69.9%	79.1%	78.0%	75.8%	50.4%	51.3%	59.0%	65.4%	70.8%	37.6%	35.9%	46.7%	51.0%	53.7%
Michigan	74.3%	72.9%	70.9%	70.0%	69.6%	43.2%	48.8%	57.4%	60.1%	58.6%	32.1%	35.6%	40.7%	42.1%	40.8%
Minnesota	88.7%	89.5%	89.2%	87.9%	85.3%	42.4%	49.6%	53.6%	52.6%	53.9%	37.6%	44.4%	47.8%	46.2%	45.9%
Mississippi	63.6%	67.5%	62.1%	62.4%	56.8%	40.8%	48.2%	61.9%	68.6%	63.5%	25.9%	32.5%	38.4%	42.8%	36.0%
Missouri	76.6%	75.5%	73.2%	73.2%	71.2%	42.2%	43.9%	48.6%	50.8%	50.2%	32.3%	33.1%	35.6%	37.2%	35.8%
Montana	86.3%	84.7%	85.5%	84.4%	82.8%	27.9%	33.1%	50.8%	54.2%	55.5%	24.1%	28.0%	43.4%	45.7%	46.0%
Nebraska	87.7%	85.9%	87.2%	85.1%	82.9%	53.6%	58.7%	63.3%	60.4%	61.7%	47.0%	50.4%	55.2%	51.4%	51.2%
Nevada	79.5%	73.0%	70.7%	67.4%	65.4%	25.1%	42.3%	32.8%	37.6%	38.7%	20.0%	30.9%	23.2%	25.3%	25.3%
New Hampshire	74.5%	77.2%	78.1%	73.6%	74.9%	40.0%	39.6%	56.2%	55.6%	57.4%	29.8%	30.6%	43.9%	40.9%	43.0%
New Jersey	79.4%	80.4%	84.1%	85.3%	82.8%	40.1%	41.6%	60.8%	64.4%	65.4%	31.8%	33.4%	51.1%	54.9%	54.1%
New Mexico	73.0%	73.4%	67.8%	66.6%	63.4%	37.3%	41.7%	50.1%	53.5%	55.7%	27.2%	30.6%	34.0%	35.6%	35.3%
New York	67.6%	66.3%	66.6%	64.5%	61.4%	49.6%	45.2%	66.9%	69.5%	71.0%	33.5%	30.0%	44.6%	44.8%	43.6%
North Carolina	71.0%	68.0%	68.5%	66.0%	62.4%	51.2%	53.1%	50.0%	51.0%	53.8%	36.4%	36.1%	34.3%	33.7%	33.5%
North Dakota	88.6%	88.3%	87.5%	87.7%	89.0%	54.8%	56.3%	65.8%	68.2%	71.0%	48.6%	49.7%	57.6%	59.8%	63.2%
Ohio	79.3%	76.4%	72.4%	75.0%	70.6%	34.0%	41.4%	49.7%	51.4%	54.5%	27.0%	31.6%	36.0%	38.6%	38.5%
Oklahoma	75.9%	74.0%	76.3%	76.1%	73.0%	43.4%	32.4%	50.6%	49.3%	47.6%	32.9%	24.0%	38.6%	37.5%	34.7%
Oregon	71.7%	71.7%	73.5%	72.7%	66.6%	45.0%	52.6%	54.3%	57.4%	52.6%	32.3%	37.7%	39.9%	41.7%	35.0%
Pennsylvania	81.0%	81.1%	81.5%	78.9%	76.3%	38.9%	43.1%	53.8%	56.9%	56.7%	31.5%	35.0%	43.8%	44.9%	43.2%
Rhode Island	73.1%	70.5%	76.8%	73.4%	71.4%	40.3%	44.1%	61.8%	65.4%	65.1%	29.5%	31.1%	47.5%	48.0%	46.4%
South Carolina	65.3%	65.2%	58.1%	57.5%	54.4%	40.6%	47.1%	43.3%	58.4%	59.1%	26.5%	30.7%	25.2%	33.6%	32.1%
South Dakota	84.7%	86.7%	85.3%	91.4%	86.6%	46.8%	41.2%	51.3%	49.9%	52.0%	39.6%	35.7%	43.8%	45.6%	45.0%
Tennessee	66.3%	68.6%	68.7%	63.0%	63.4%	40.1%	46.2%	45.9%	53.5%	53.8%	26.6%	31.7%	31.5%	33.7%	34.1%
Texas	66.0%	64.9%	56.0%	59.6%	58.4%	37.7%	50.5%	52.5%	50.4%	54.1%	24.9%	32.8%	29.4%	30.0%	31.6%
Utah	81.6%	81.3%	81.1%	80.2%	78.4%	20.2%	27.0%	51.7%	55.8%	50.8%	16.5%	22.0%	41.9%	44.8%	39.8%
Vermont	80.9%	81.2%	82.4%	84.6%	89.9%	40.3%	51.5%	55.7%	50.6%	47.2%	32.6%	41.8%	45.9%	42.8%	42.4%
Virginia	75.7%	74.6%	74.0%	72.4%	75.5%	40.7%	48.0%	51.7%	53.3%	54.5%	30.8%	35.8%	38.3%	38.6%	41.1%
Washington	74.8%	78.0%	76.1%	76.7%	72.2%	46.6%	48.6%	58.4%	57.4%	58.1%	34.9%	37.9%	44.4%	44.0%	42.0%
West Virginia	75.6%	76.8%	77.0%	78.0%	76.1%	38.1%	41.5%	48.7%	49.5%	50.1%	28.8%	31.9%	37.5%	38.6%	38.1%
Wisconsin	84.6%	83.3%	82.2%	81.9%	80.4%	47.2%	52.4%	60.5%	59.8%	57.7%	39.9%	43.6%	49.7%	49.0%	46.4%
Wyoming	77.2%	77.5%	83.8%	84.3%	77.8%	46.6%	46.9%	46.2%	52.6%	52.8%	36.0%	36.3%	38.7%	44.3%	41.1%
TOTAL	**73.3%**	**72.7%**	**71.2%**	**70.0%**	**67.9%**	**43.0%**	**47.7%**	**53.6%**	**57.2%**	**58.5%**	**31.5%**	**34.7%**	**38.2%**	**40.0%**	**39.7%**

Is college still worth the cost?

The Private Investment Value of Higher Education 1967 to 1996

The rapid escalation of prices to attend college to students and their families has raised justifiable concerns about college affordability. Since 1980, these prices have increased much faster than family incomes, grant assistance, or the price of most other goods or services in the U.S.. This has become a sticker shock issue drawing the attention of federal policy makers.

Some students, particularly from lowest income backgrounds, appear to be deciding that college is not affordable. Many low- and middle-income students appear to make college choice decisions based on price. And there is accumulating evidence that these price barriers are increasingly affecting graduation rates for students from low- and middle-income families.

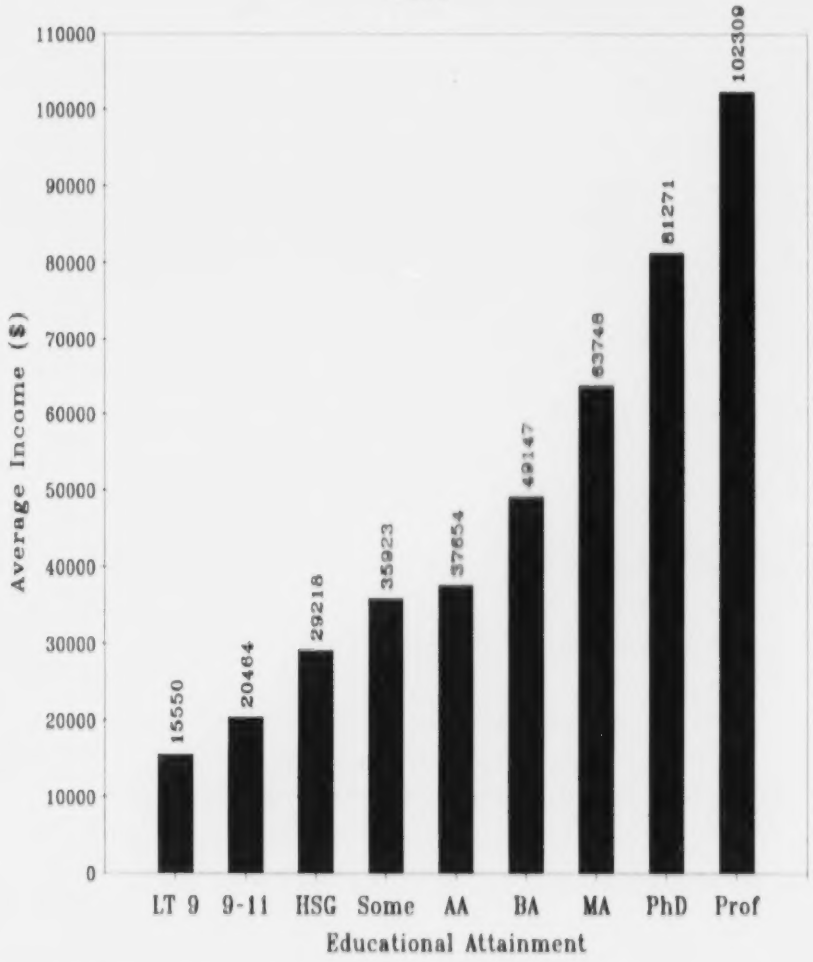
However, students do not attend college because of its consumption value. According to the 1997 survey of American college freshmen by the Higher Education Research Institute at UCLA, the most important reasons for attending college are to:

Get a better job	74.6%
Learn more about things	74.3%
Make more money	73.0%
Gain general education	60.7%
Prove I could succeed	40.7%
Parents wanted me to go	36.2%
Become more cultured person	35.7%

Just 3.4 percent of all freshmen reported that they went to college because there was nothing better to do, and 6.8 percent reported that a major reason for attending college was because they could not find a job.

College education costs a great deal of money, much more than it did in 1980. But so too college educations pay handsome returns, much more than they did in 1980. College is fundamentally an *investment* decision. Students and their parents spend hard-earned money on education because they expect that they will get a return on that expenditure that is greater than the money they pay for it. They expect college to have a substantial positive return on their investment, and they are right.

Average Annual Income by Educational Attainment for Males 25 Years and Over 1996



In this analysis we examine the economic value of the higher education investment in two ways. First, we compare incomes at different levels of educational attainment, and compare the income gains of the college-educated to the numbers of years spent acquiring different levels

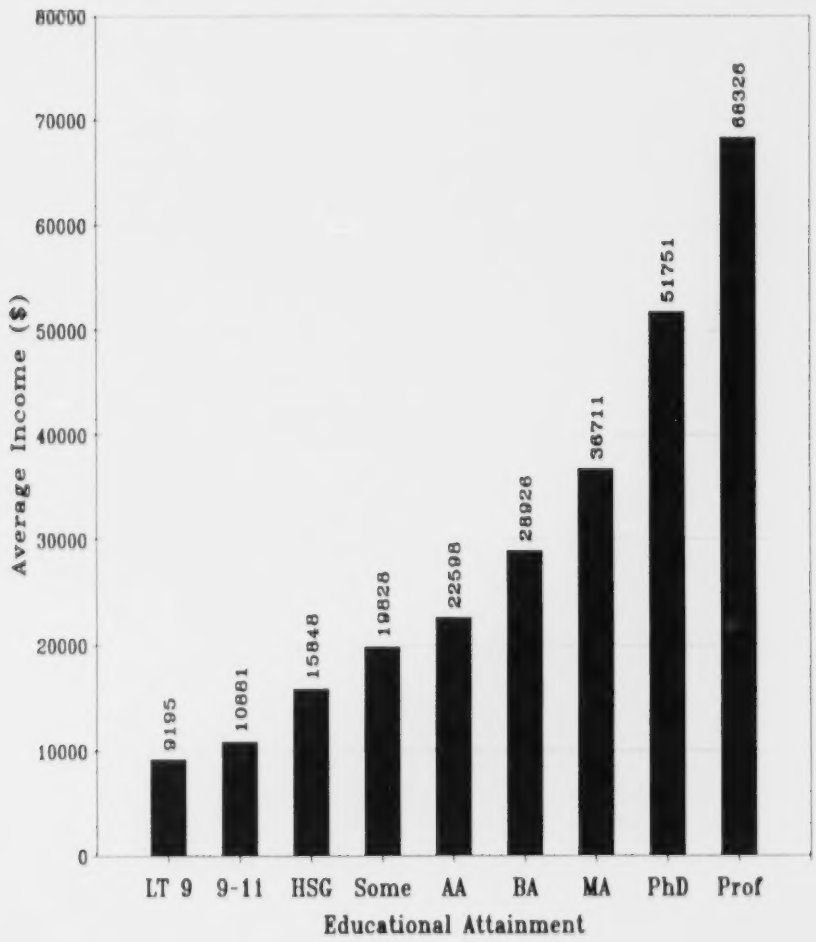
of education. This approach provides a benefit reference when looking at the price of a year of higher education.

Then we compare economic benefits to costs. The economic benefits are the increased lifetime incomes that accrue to the college-educated compared to those with a high school education. The costs of college are the institutional charges paid by students and their families over four years to obtain the bachelor's degree.

The conclusion both approaches lead to is that college remains an extraordinarily valuable investment for students and families to make. In fact, in a broad sense of investment, there is probably no better use of student and family investment capital than higher education.

For those concerned about the cost of higher education, we restate our long-held conclusion: the only thing more expensive than going to college is not going to college. To pass up college, because 4 years would cost $40,000 to $80,000 in attendance costs, means that a male would forgo about $700,000 in increased lifetime income and a female would pass up nearly $400,000.

Average Annual Income by Educational Attainment for Females 25 Years and Over 1996



The Data

The primary data used in these analyses are annual income by educational attainment data reported by the Census Bureau. They are collected in the annual Current Population Survey in March of each year. The annual income data are for the prior calendar year. These data are eventually published in the P60 and P20 series of Current Population Reports. However, we obtained all of the income data used in these analyses through downloads from the Census Bureau's website.

The P60 income by educational attainment data are the most current, through 1996, and also offer the longest time-series, since 1967. They are available at:

http://www.census.gov/hhes/income/histinc/index.html

The P20 income by educational attainment data offer useful racial/ethnic breakdowns. They are available at:

http://www.census.gov/population/socdemo/education/tablea-03.txt

This analysis also uses data on college attendance costs from two sources. The broader measure of college attendance costs is the one used in needs analysis for student financial aid, and we used The College Board's report from its institutional survey of 1997-98 undergraduate student charges.

We also used institutional charges as collected by the National Center for Education Statistics. These data are published in the annual *Digest of Education Statistics*. These data include tuition, fees, room and board. They do not include other costs of attendance such as books, supplies,

transportation, personal and medical care that are normally considered in college budgets for financial aid purposes.

However, institutional charges are by far the largest share of total costs of attendance. For the current academic year, institutional charges average 74 percent of the costs of attendance at public 4-year colleges and universities, and 90 percent at private institutions, according to national average cost-of-attendance data reported by The College Board.

Lifetime Income Gain per Year of Postsecondary Education

The first analysis of higher education as an individual investment examines the lifetime income gain per year of postsecondary study for all levels of higher education. These data are summarized in the following table for CY1995, the most recent year in which racial/ethnic breakdowns have been reported.

Here we have employed data collected in another Census Bureau survey, the Survey of Income and Program Participation, to control of the differing lengths of time taken to complete formal education. These data vary by gender and race/ethnicity. For males, for example, it takes on average 14.1 years to complete a doctorate. This substantially reduces the working lifetime--through age 66--assumed for these calculations over which one can earn the higher incomes that higher education enables.

In the following table, for example, a male with a high school diploma only could expect an average annual income of about $27,952 over a working life of 48 years, or a total of about $1.342 million. Another male with an Bachelor's degree from college could be expected to earn $48,856 over a 41.8 year working life, or a total of about $2.042 million. The male with the Bachelor's degree would earn about $700,000 more than the high school graduate, or about $112,000 per year of study. (The Census study found that it took an average of 6.25 years after high school to receive the bachelor's degree for a male.)

To put this earnings differential into perspective, the cost-of-attendance for a year of study at an average cost public 4-year college in 1997-98 is $8080 for a commuter and $10,069 for a campus resident. The average annual cost at a private 4-year college is $18,260 as a commuter and $21,421 as a campus resident. That is to say, the ration of income gain to cost-of-attendance is $112,000/$8080 to $21,421, or anywhere from 13.9 to 5.2 to 1.

Using a similar approach for women, the average annual lifetime income gain per year of bachelor's study over that of a high school graduate was $63,000. Compared to annual costs-

Estimated Lifetime Income by Educational Attainment, Gender, 1995

Educational Attainment	Working Years[a]	Mean Annual Income[b]	Lifetime Income	Premium Over High School Grad	Lifetime Income Gain Per Year of Study After HS
Male, All Races, 25 Years and Over					
Doctorate	33.9	$72,831	$2,469,000	$1,127,000	$79,000
Professional	37.1	99,141	3,678,000	2,336,000	320,000
Masters	36.5	60,933	2,225,000	883,000	76,000
Bachelors	41.8	48,856	2,042,000	700,000	112,000
Associate	44.0	35,812	1,576,000	234,000	52,000
Some College	46.0	33,600	1,546,000	204,000	101,000
High School Graduate	48.0	27,952	1,342,000	0	0
Not High School Grad	51.5	17,143	883,000	-459,000	-120,000
Female, All Races, 25 Years and Over					
Doctorate	31.1	$48,235	$1,500,000	$763,000	$45,000
Professional	37.7	47,721	1,799,000	1,062,000	103,000
Masters	35.1	35,512	1,246,000	509,000	39,000
Bachelors	41.8	26,927	1,126,000	389,000	63,000
Associate	44.0	22,496	1,010,000	273,000	68,000
Some College	46.0	18,574	854,000	117,000	59,000
High School Graduate	48.0	15,359	737,000	0	0
Not High School Grad	51.6	9593	495,000	-242,000	-67,000

Estimated Lifetime Income by Educational Attainment, Gender and Race/Ethnicity, 1995

Educational Attainment	Working Years[a]	Mean Annual Income[b]	Lifetime Income	Premium Over High School Grad	Lifetime Income Gain Per Year of Study After HS
White Males, 25 Years and Over					
Doctorate	32.9	$74,382	$2,447,000	$1,049,000	$69,000
Professional	36.8	98,059	3,609,000	2,211,000	196,000
Masters	35.3	61,662	2,177,000	779,000	62,000
Bachelors	41.8	50,051	2,092,000	694,000	112,000
Associate	44.0	36,402	1,602,000	204,000	51,000
Some College	46.0	34,587	1,591,000	193,000	97,000
High School Graduate	48.0	29,122	1,398,000	0	0
Not High School Grad	51.9	17,711	919,000	-479,000	-123,000
White Females, 25 Years and Over					
Doctorate	32.9	$45,937	$1,511,000	$764,000	$51,000
Professional	36.8	48,357	1,780,000	1,033,000	92,000
Masters	35.4	35,834	1,269,000	552,000	44,000
Bachelors	41.8	27,075	1,132,000	385,000	63,000
Associate	44.0	22,720	1,000,000	253,000	63,000
Some College	46.0	18,526	852,000	105,000	53,000
High School Graduate	48.0	15,566	747,000	0	0
Not High School Grad	51.6	9,711	501,000	-246,000	-68,000
Black Males, 25 Years and Over					
Masters	34.5	$43,619	$1,505,000	$522,000	$38,000
Bachelors	41.0	35,980	1,475,000	492,000	70,000
Associate	44.0	33,983	1,495,000	512,000	127,000
Some College	46.0	27,929	1,285,000	302,000	151,000
High School Graduate	48.0	20,480	983,000	0	0
Not High School Grad	51.5	14,039	723,000	-260,000	-74,000
Black Females, 25 Years and Over					
Masters	34.5	$34,146	$1,178,000	$509,000	$38,000
Bachelors	41.0	25,486	1,045,000	376,000	53,000
Associate	44.0	21,212	933,000	264,000	66,000
Some College	46.0	18,755	863,000	194,000	97,000
High School Graduate	48.0	13,944	669,000	0	0
Not High School	51.0	9,191	449,000	-220,000	-74,000
Hispanic Males, 25 years and Over					
Masters	35.1	$42,388	$1,488,000	$381,000	$30,000
Bachelors	41.8	35,502	1,484,000	377,000	61,000
Associate	44.0	27,086	1,192,000	85,000	21,000
Some College	46.0	26,314	1,210,000	103,000	52,000
High School Graduate	48.0	23,062	1,107,000	0	0
Not High School	53.5	15,214	814,000	-293,000	-54,000

Estimated Lifetime Income by Educational Attainment, Gender and Race/Ethnicity, 1995

Educational Attainment	Working Years[a]	Mean Annual Income[b]	Lifetime Income	Premium Over High School Grad	Lifetime Income Gain Per Year of Study After HS
Hispanic Females, 25 Years and Over					
Masters	35.1	$32,267	$1,133,000	$414,000	$33,000
Bachelors	41.8	24,461	1,022,000	303,000	47,000
Associate	44.0	22,916	1,008,000	289,000	72,000
Some College	46.0	17,840	820,000	101,000	51,000
High School Graduate	48.0	14,981	719,000	0	0
Not High School	52.4	8474	444,000	-275,000	-63,000

[a]Kominski, R. and Sutterlin R. *What's it Worth? Educational Background and Economic Status: Spring 1990.* U.S. Bureau of the Census, Current Population Reports, P70-32, U.S. Government Printing Office, Washington, DC, 1992.

[b]Day, Jennifer C., and Curry, Andrea E. *Educational Attainment in the United States: March 1996.* U.S. Bureau of the Census, Current Population Reports, P20-493, U.S. Government Printing Office, Washington, DC, 1997. See Table 8. Data used in this analysis is mean income in 1995 for persons 25 years and over with income.

of-attendance ranging from $8080 to $10,069 at an average cost public 4-year institution, the benefit/cost ratios range from 7.8 to 6.3 to one. At average cost private 4-year colleges and universities, the benefit/cost ratios range from 3.5 to 2.9 to one.

This same general pattern holds up for whites, blacks and Hispanics of both genders. The average annual income gains range from a low of $47,000 for Hispanic females, to a high of $70,000 for black males (excluding white males from this analysis where the lifetime income gain per year of study is $112,000). Compared to annual costs of attendance ranging from $8080 to $21,421, the benefit/cost ratios all remain positive and significant.

Lifetime Income Gain/Institutional Charges Ratios over Time

The second approach to examining higher education as investment by incorporating both economic benefits and costs uses data over the last three decades. Is college a more or less valuable investment today than it was ten, or twenty or thirty years ago? These data provide a useful insight into changes in the value of higher education over the last 30 years.

This approach provides strong evidence that the value of higher education has held up well over the last 30 years. The benefit/cost ratios calculated over time here hold up well, although somewhat more so for females than males. This approach also documents shifts in the value of higher education over time that are worthy of very careful monitoring.

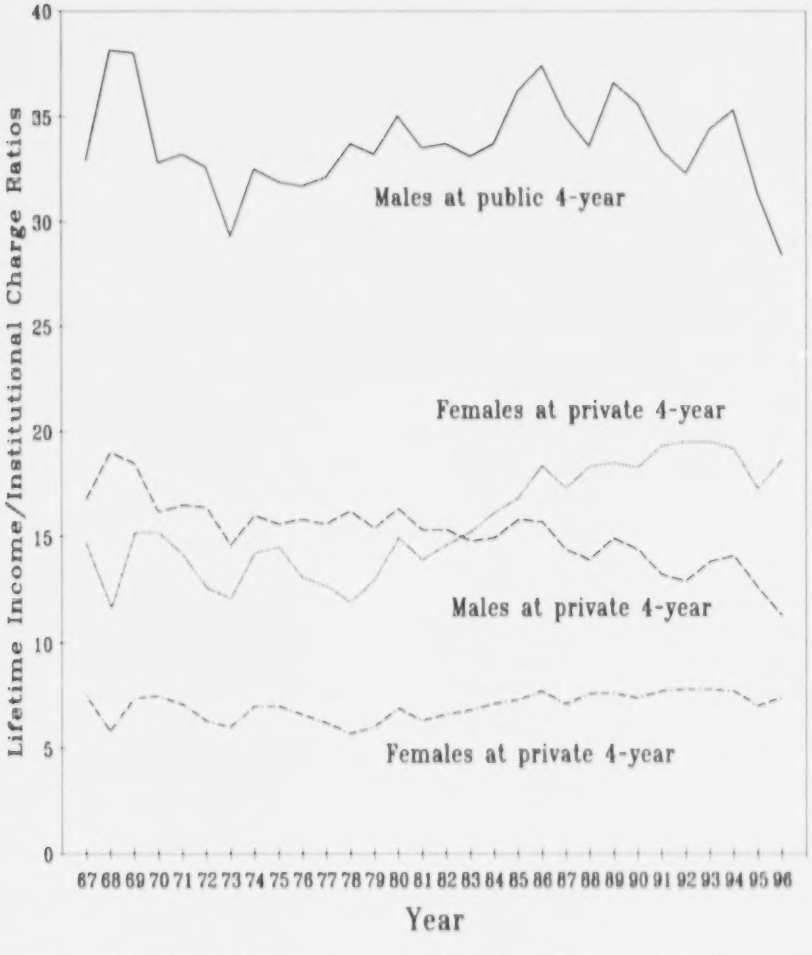
The basic calculation here is limited to males and females, to institutional charges data and to the difference between bachelor's degree graduates and high school graduates because of time-series data limitations. The economic benefits are defined to be difference lifetime income between bachelor's degree holders and high school graduates. The economic costs are defined to be annual institutional charges for tuition, fees room and board times 4 years.

The results are summarized both in the chart on the following page and in the spreadsheet on page 15. For example, for males graduating from public colleges in 4 years the benefit/cost ratio has generally ranged between about 30:1 to 35:1 over the last 30 years. Expressed another way, for each dollar spent on tuition, fees, room and board over a 4 year enrollment period, lifetime income is increased by $30 to $35.

The 1996 benefit/cost ratio stands out from the preceding 29 years insofar as it is the lowest on record. It may be too soon to know whether this is a new trend, or merely an aberration in the data. It results from two conditions: first the lack of growth in college graduates incomes between 1994 and 1996, and second the substantial growth in high school graduates' incomes during this same period. This trend will be closely followed over the next several years to determine its persistence and strength.

For males graduating from average cost private colleges and universities this benefit/cost ratio has generally been about 15:1. Here the long-range trend is clearly downward from about 18:1 in the late 1960s about 11:1 in 1996. This trend is a direct result of the more rapid escalation in private college costs than growth in the income differential between college and high school graduates. Note,

Lifetime Income/Institutional Charge Ratios
by Gender and Institutional Control
1967 to 1996



however, that the Census data used in this analysis fail to distinguish between the incomes of private and public college graduates.

For women graduating from public colleges, the benefit/cost ratios are considerably below those for males. However, they have increased particularly between about 1976 and 1991. In 1991 the benefit/cost ratio was about 19:1, or for each dollar spent on institutional charges the increased income that resulted was about $19. This is well above the $12 to $14 range of the early 1970s.

The benefit cost ratios for women graduates of private institutions are lower because the institutional charges are higher. In 1996 this ratio was about 7:1, this is somewhat above the rates of the early 1980s, but generally has been quite consistent over time. Again, the Census Bureau income data used in this analysis do not distinguish between private and public college graduates.

Conclusions

These analyses seek to extend the discussion of college affordability beyond price. They do so by bringing the economic benefits from college into the picture. The benefit/cost approach that results views expenditures for higher education quite correctly as an *investment* decision. The very large costs of attendance paid out today will return, on average, very much larger income benefits over the balance of one's working lifetime, through age 66.

Both of these benefit/cost approaches reach similar conclusions: college is a worthy investment. Part of the reason this is so is because most college graduates are doing relatively well in the labor force. But even more so, this is a result in the sharp decline in the incomes of people with only a high school education or less.

Measured against these benefits are costs. By any measure these costs have increased sharply since 1980. These increases in public institutions are the direct consequence of the reduction in state financial support for higher education. Institutional charges to students have been increased to offset losses in state funding in every state.

The rapid increase in the income differentials between college- and high school-educated workers has come close to matching the run-up in institutional charges that has occurred since 1980. The end result is general stability in the value of higher education as an investment over time. Yes, college costs more than it used to, but so to have the economic benefits of college education increased in the labor force after college.

Several additional points deserve mention here.

First, there are many ways to make these calculations more complete. They all increase the complexity of the analysis, but are highly unlikely to alter the basic conclusions of these

Private Economic Benefits and Costs of Higher Education Investments

Year	<--Income--> Bachlr Degree A	HS Grad B	Diff C=A-B	Lifetim D=Cx40	<--Pub Cost--> Inst Chrgs E	Degree Cost F=Ex4	Incm/ Cost Ratio G=D/F	<--Priv Cost--> Inst Chrgs H	Degree Cost I=Hx4	Incm/ Cost Ratio J=D/I
Males										
1996	49,147	29,218	19,929	797,160	7,014	28,056	28.4	17,612	70,448	11.3
1995	48,856	27,952	20,904	836,160	6,670	26,680	31.3	16,602	66,408	12.6
1994	49,094	26,634	22,460	898,400	6,365	25,460	35.3	15,904	63,616	14.1
1993	46,197	25,501	20,696	827,840	6,020	24,080	34.4	15,009	60,036	13.8
1992	42,801	24,408	18,393	735,720	5,695	22,780	32.3	14,273	57,092	12.9
1991	41,808	24,314	17,494	699,760	5,243	20,972	33.4	13,237	52,948	13.2
1990	42,281	24,553	17,728	709,120	4,975	19,900	35.6	12,284	49,136	14.4
1989	41,911	24,768	17,143	685,720	4,678	18,712	36.6	11,474	45,896	14.9
1988	38,397	23,614	14,783	591,320	4,403	17,612	33.6	10,659	42,636	13.9
1987	36,907	22,436	14,471	578,840	4,138	16,552	35.0	10,039	40,156	14.4
1986	36,150	21,700	14,450	578,000	3,859	15,436	37.4	9,228	36,912	15.7
1985	34,243	20,916	13,327	533,080	3,682	14,728	36.2	8,451	33,804	15.8
1984	32,056	20,479	11,577	463,080	3,433	13,732	33.7	7,759	31,036	14.9
1983	29,718	19,145	10,573	422,920	3,196	12,784	33.1	7,126	28,504	14.8
1982	28,278	18,598	9,680	387,200	2,871	11,484	33.7	6,330	25,320	15.3
1981	26,694	18,139	8,555	342,200	2,550	10,200	33.5	5,594	22,376	15.3
1980	25,337	17,181	8,156	326,240	2,327	9,308	35.0	5,013	20,052	16.3
1979	23,399	16,288	7,111	284,440	2,145	8,580	33.2	4,609	18,436	15.4
1978	22,010	15,152	6,858	274,320	2,038	8,152	33.7	4,240	16,960	16.2
1977	20,222	14,017	6,205	248,200	1,935	7,740	32.1	3,977	15,908	15.6
1976	18,796	13,051	5,745	229,800	1,811	7,244	31.7	3,625	14,500	15.8
1975	17,618	12,354	5,264	210,560	1,648	6,592	31.9	3,379	13,516	15.6
1974	17,083	11,884	5,199	207,960	1,598	6,392	32.5	3,255	13,020	16.0
1973	15,794	11,218	4,576	183,040	1,561	6,244	29.3	3,142	12,568	14.6
1972	15,256	10,433	4,823	192,920	1,478	5,912	32.6	2,943	11,772	16.4
1971	14,158	9,566	4,592	183,680	1,383	5,532	33.2	2,783	11,132	16.5
1970	13,372	9,185	4,187	167,480	1,275	5,100	32.8	2,591	10,364	16.2
1969	13,258	8,827	4,431	177,240	1,165	4,660	38.0	2,395	9,580	18.5
1968	12,418	8,148	4,270	170,800	1,122	4,488	38.1	2,253	9,012	19.0
1967	11,232	7,629	3,603	144,120	1,096	4,384	32.9	2,149	8,596	16.8
Females										
1996	28,926	15,848	13,078	523,120	7,014	28,056	18.6	17,612	70,448	7.4
1995	26,927	15,359	11,568	462,720	6,670	26,680	17.3	16,602	66,408	7.0
1994	26,466	14,236	12,230	489,200	6,365	25,460	19.2	15,904	63,616	7.7
1993	25,579	13,844	11,735	469,400	6,020	24,080	19.5	15,009	60,036	7.8
1992	24,400	13,300	11,100	444,000	5,695	22,780	19.5	14,273	57,092	7.8
1991	23,237	13,104	10,133	405,320	5,243	20,972	19.3	13,237	52,948	7.7
1990	22,147	13,034	9,113	364,520	4,975	19,900	18.3	12,284	49,136	7.4
1989	21,140	12,471	8,669	346,760	4,678	18,712	18.5	11,474	45,896	7.6
1988	19,814	11,743	8,071	322,840	4,403	17,612	18.3	10,659	42,636	7.6
1987	18,347	11,176	7,171	286,840	4,138	16,552	17.3	10,039	40,156	7.1
1986	17,603	10,517	7,086	283,440	3,859	15,436	18.4	9,228	36,912	7.7
1985	16,288	10,120	6,168	246,720	3,682	14,728	16.8	8,451	33,804	7.3
1984	15,141	9,610	5,531	221,240	3,433	13,732	16.1	7,759	31,036	7.1
1983	13,793	8,934	4,859	194,360	3,196	12,784	15.2	7,126	28,504	6.8
1982	12,711	8,512	4,199	167,960	2,871	11,484	14.6	6,330	25,320	6.6
1981	11,360	7,817	3,543	141,720	2,550	10,200	13.9	5,594	22,376	6.3
1980	10,614	7,138	3,476	139,040	2,327	9,308	14.9	5,013	20,052	6.9
1979	9,184	6,402	2,782	111,280	2,145	8,580	13.0	4,609	18,436	6.0
1978	8,595	6,173	2,422	96,880	2,038	8,152	11.9	4,240	16,960	5.7
1977	8,529	6,063	2,466	98,640	1,935	7,740	12.7	3,977	15,908	6.2
1976	7,980	5,603	2,377	95,080	1,811	7,244	13.1	3,625	14,500	6.6
1975	7,537	5,155	2,382	95,280	1,648	6,592	14.5	3,379	13,516	7.0
1974	7,092	4,813	2,279	91,160	1,598	6,392	14.3	3,255	13,020	7.0
1973	6,383	4,489	1,894	75,760	1,561	6,244	12.1	3,142	12,568	6.0
1972	6,121	4,261	1,860	74,400	1,478	5,912	12.6	2,943	11,772	6.3
1971	5,915	3,952	1,963	78,520	1,383	5,532	14.2	2,783	11,132	7.1
1970	5,701	3,758	1,943	77,720	1,275	5,100	15.2	2,591	10,364	7.5
1969	5,309	3,543	1,766	70,640	1,165	4,660	15.2	2,395	9,580	7.4
1968	4,639	3,321	1,318	52,720	1,122	4,488	11.7	2,253	9,012	5.8
1967	4,759	3,149	1,610	64,400	1,096	4,384	14.7	2,149	8,596	7.5

1-Census Bureau, Current Population Survey,
http://www.census.gov/hhes/income/histinc/p15.html and p16.html
2-National Center for Education Statistics, 1995 Digest, pp. 317-318.

analyses. A more complete measure of the costs of higher education would include foregone income, non-institutional charges, loan financing charges, risk and others. A more complete measure of the benefits of higher education would go well beyond economic benefits into areas that are largely non-quantifiable. All future values (that can be measured) need to be discounted to present value.

What such efforts would produce would be private rates of return to higher education investment decisions. In their 1988 book on *The Economic Value of Higher Education,* Leslie and Brinkman estimated private rates of return for an undergraduate degree to be 11.8 to 13.4 percent (p. 41).

For several reasons Leslie and Brinkman felt this range was too low. For one thing, many students receive financial aid that reduces the costs of attendance used in our analysis.

Moreover, the benefits of higher education go far beyond the economic benefits (income differentials) used here. The authors suggest that these non-monetary benefits may be equal in size to the measurable monetary benefits. That alone would double the calculated private rates of return noted above.

It is also worth noting that higher education retains this high private economic value for any demographic slice of the population: by gender, by race or ethnicity, in all 50 states.

For students and their families justifiably worried about the barriers to higher education that high and rising prices present, the economic returns on the required investment still make higher education one of the best deals they will ever make. Still, despite the real price run-up since 1980, the only thing more expensive than going to college is not going to college. Without the education, training and certification that higher education offers, the best paying jobs in the labor force are forever closed off. It is education and training that make workers more productive for their employers, and thereby justifying the higher wages successful employers can offer their employees.

Finally, these arguments can be generalized to society as well. More and better educated citizens earn more money, pay more in taxes and require less in social services such as welfare and corrections than do the least educated among us. The better educated vote at higher rates, know more about government, are more likely to read newspapers and magazines and participate more in community service than are those with high school educations or less. The benefits easily attributed to those who receive higher education apply to society as well.

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Number 70 **Oskaloosa, Iowa** **April 1998**

Going farther away to college . . .

Interstate Migration of College Undergraduates

Going away to college is one of life's great transitions. Some freshmen go farther than others. Some cross state lines to find the college of their choice. These tend to be students from affluent families, with high test scores and grades, with parents having a great deal of higher education. They tend to seek highly selective institutions for their enrollment. But this is not always the case: Pell Grant recipients also cross state lines in search of educational opportunity.

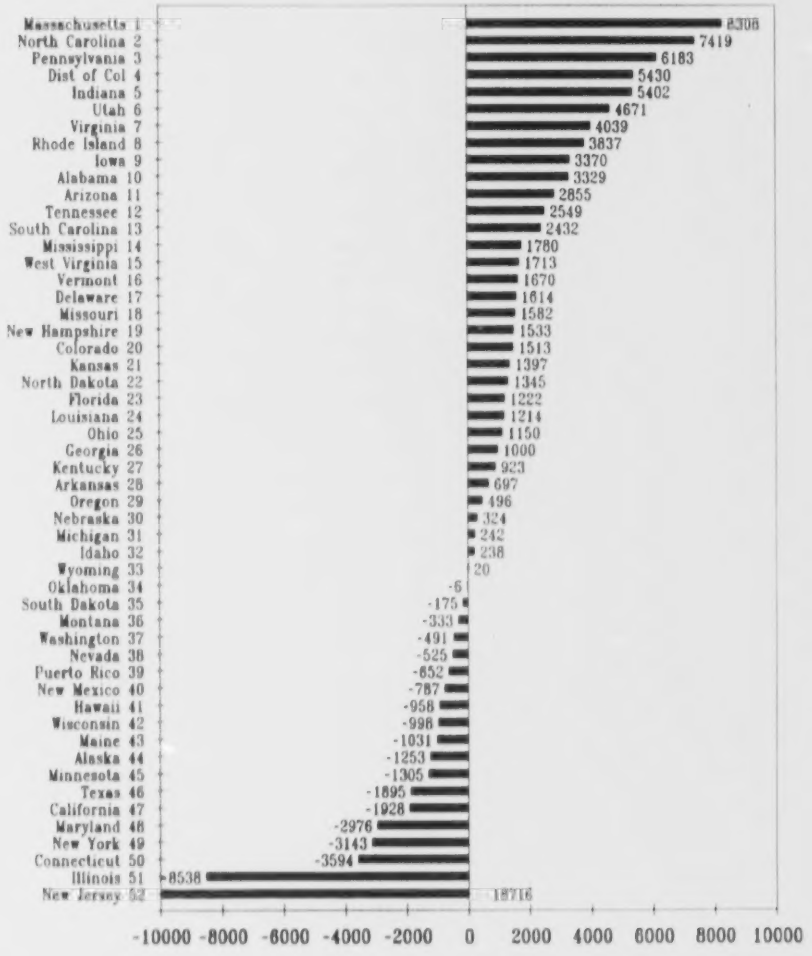
Leaving home for college has many meanings. For students it means freedom from daily parental meddling and control of their lives, although colleges provide an *in loco parentis* substitute. It's the transitional step to adulthood. It also remixes students in intense relationships that can foster important personal and social growth.

In economic terms, states that enroll students from other states thereby attract the large sums that students spend on their educations and living costs while attending college. Colleges are "clean" industry and what students and colleges spend in the communities in which they are located multiplies as it moves through the community, providing jobs and improving living standards.

Over the last one to two decades, there has been a steady and substantial growth in the number of freshmen leaving their home state to attend college at greater distances.

- In the biennial IPEDS enrollment surveys administered by the National Center for Education Statistics that capture one set of these data--on first-time college freshmen who graduated from high school during the previous twelve months--the number of freshmen leaving their home state has grown from 195,000 to 272,000 between 1986 and 1996.
- In the annual survey of American

Freshmen Net Migration by State, 1996



college freshmen administered by the Higher Education Research Institute at UCLA, the median distance from home to college of first-time, full-time freshmen has grown from about 45 miles in the mid-1970s to 73 miles by 1997.

Other data provide similar findings. Leaving home to start college really does mean going away--way away--to attend college.

Here we examine one aspect of leaving home to attend college: leaving one's home state to attend college in another state. This means bypassing less costly state-supported colleges and universities to attend an inevitably higher priced public or private institution. What compels people to do this is not the focus of this study. (We examined that question in the August 1996 issue of **OPPORTUNITY**.) Rather, we are mainly interested in differences in migration across the 50 states (plus District of Columbia, Puerto Rico and Virgin Islands).

Two major data sets are examined here to gain insight into how states compare in their efforts to hold and attract more affluent students compared to their low-income students. Attracting college students from other states is important state business, such as in all of **New England** and some **Middle Atlantic** states. Other states, such as **New Jersey** and **Illinois** send far more of their residents to other states to study than they attract in return.

In a sense, these net migration patterns reflect the efforts of institutions and states to make their higher education systems attractive to students.

- The states that attract more students than they export apparently provide sufficiently attractive higher educational opportunities that students are willing to bypass less costly intervening opportunities.
- The states that export more students than they import appear to be providing insufficiently attractive higher educational opportunities within their borders.

Given the importance of higher education--both short-term and long-term--to state economic welfare, this analysis is a report card on a vital aspect of state welfare, now and in the future.

The Data

This analysis is based primarily on two sets of data, with reference to a third. The first data set used here is the IPEDS residence and migration enrollment survey administered biennially since 1986 by the National Center for Education Statistics. The results of the fall 1996 survey were recently published by NCES under the following title:

National Center for Education Statistics. (March 1998). *Residence and Migration of First-time Freshmen Enrolled in Degree-Granting Institutions: Fall 1996.* E.D. Tabs. NCES 98-277. Washington, D.C.: U.S. Department of Education, Office of Education Research and Improvement.

We downloaded our copy of this report from the NCES website at:

http://nces.ed.gov/pubsearch/wnew.idc?1

Downloaders will need Adobe Acrobat software (V3.0) to download, view and print the report. This software is free and may be accessed, downloaded and installed through a link on the NCES home page.

In particular, we have focused on the residence and migration data of first-time freshmen who have graduated from high school during the previous 12 months. State of residence is likely to have a more stable meaning for this

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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group than for freshmen who may have been out of high school for a year or more. While these data have been collected from institutions every other year since 1986, the 1990 data were never released due to severe under-reporting problems from two states.

The second data set is compiled from the annual *Pell Grant End-of-Year Report*. Data on Pell Grant recipients are compiled and reported both by state of residence of the recipient, and by state where college enrollment occurred. The difference between the two tabulations represents net interstate migration of Pell Grant recipients.

We are particularly interested in these data because Pell Grants only go to students from low income family backgrounds. For these students, going away to college, bypassing lower cost public institutions to attend more expensive institutions in other states, reflects overcoming significant financial barriers without significant family resources. These data make particularly strong statements about how well states meet the needs of their own low income students.

Our analysis of data contrasts the net interstate migration rates of all college freshmen with the net interstate migration of Pell Grant (low income) recipients.

Finally, the third set of data examined is the annual freshman survey data collected and reported by UCLA's Higher Education Research Institute. Their data appear in the chart on this page. These data were examined in more detail in the August 1996 issue of OPPORTUNITY. We limit our use of these data to the one chart that appears on this page.

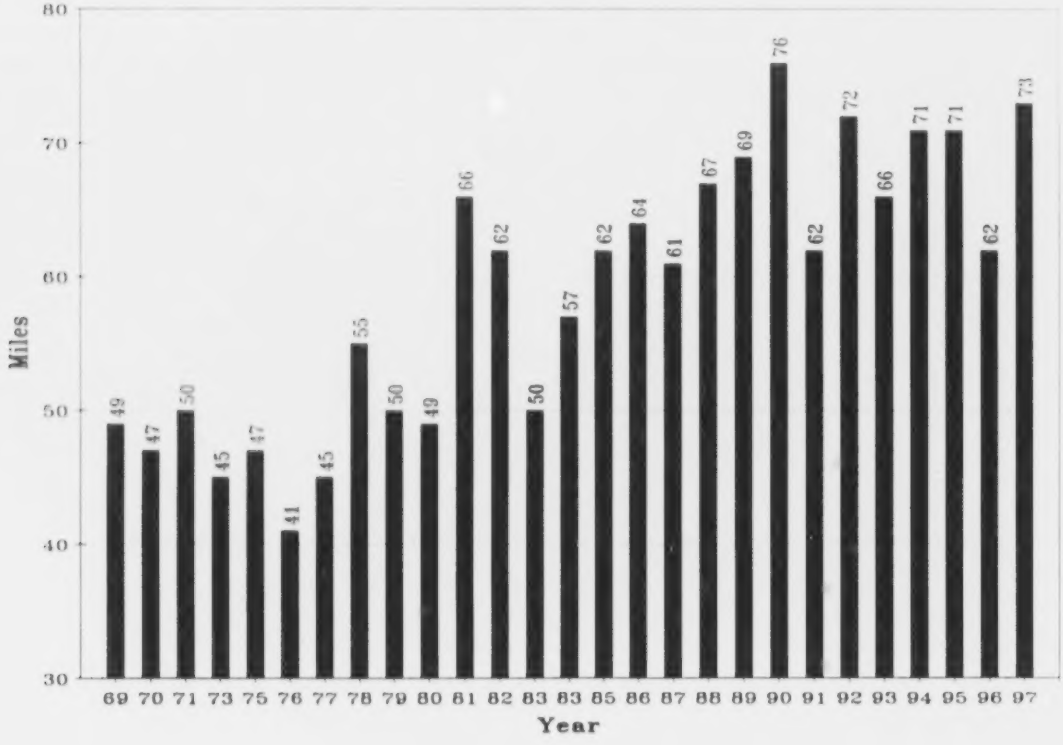
Going Away to College

Over the last three decades, the college freshmen participating in the annual survey of American college freshmen report attending colleges farther and farther from home. The median mileage from home to school has increased from about 45 miles in the mid-1970s, to about 70 miles in the 1990s.

This median, however, obscures wide variation between different groups of students and between different types of institutions. The strongest and broadest generalizations supported by the Freshman Survey data are these:

- Family income and distance from home to college are strongly positively correlated. For freshmen from families with incomes of less than $20,000 per year, median mileage from home to college is about 45 miles. But for

Median Distance from Home to College for Freshmen
1969 to 1997



students from families with incomes of more than $200,000 per year, median mileage is 258 miles.

- Father's educational attainment and distance are strongly positively correlated. Median miles from home to college for freshmen whose fathers are not high school graduates is 38, compared to 49 for high school graduates, 91 for college graduates, and 185 miles when the father has a graduate degree.
- Blacks (94 miles), Puerto Ricans (83 miles) and other Latinos (80 miles) reported going farthest to attend college. Chicanos reported attending college closest to home, at 29 miles.
- Students who aspired to associate degrees or less attended colleges closest to home (about 40 miles), while those seeking higher degrees went farther for college. Median mileage from home to college for those seeking bachelor's degrees was 58 miles, compared to 82 for those seeking master's degrees, and about 122 miles for those seeking doctorate or medical degrees. Those seeking law degrees went the farthest at 168 miles.
- Those attending highly selective private universities went farthest for enrollment, at more than 500 miles. Those attending community colleges enrolled closest to home, at 33 miles.

The Freshman Survey data also provide valuable insight into why students attend more distant colleges and universities. Briefly, it is *perceived quality*. Relative to distance to college attended, the most important college choice factor is *academic reputation*. Other very important college choice factors relative to distance are *grads get good jobs, size of college* and *grads go to top graduate schools*. Factors cited by students in college choice relative to distance that prevented their attendance at more distant institutions were *wanted to live near home, low tuition* and *relative's wish*.

Interstate Freshman Migration

Over the last decade, about one in five college freshmen who had graduated from high school in the previous twelve months left their state of residence to enroll in college in another state. For the five years of released IPEDS survey data, the number and percent of freshmen leaving their state of residence to attend college has been as follows:

Year	Student Residents of State	Leaving State	Percent
1996	1,545,756	304,208	19.7%
1994	1,467,796	296,352	20.2%
1992	1,397,797	279,256	19.8%
1988	1,328,604	233,933	17.6%
1986	942,302	203,379	21.6%

Just as some students leave their home state, others enter that state. For any given state, the difference is the net migration number for that state. The net migration in 1996 of first time college freshmen who graduated from high school in the previous twelve months for each state is shown in the chart on the first page of this issue of OPPORTUNITY.

Thirty-three states and jurisdictions had positive net migration in 1996. **Massachusetts** led the pack with a net gain of 8308 freshmen from elsewhere. While 12,431 Massachusetts resident freshmen left the state to enroll elsewhere, 20,739 came from other states to enroll in colleges and universities in Massachusetts. Massachusetts also ranked first in net migration in 1994 and 1988.

North Carolina is nearly tied with Massachusetts for first place in net migration numbers in 1996. While 3,044 freshmen left the state for colleges elsewhere, 10,463 came from other states to enroll in college in North Carolina. The state ranked first in net migration of college freshmen in 1986 and 1992, but its net flow declined between 1992 and 1996.

Other states with large positive net freshman flows include **Pennsylvania, District of Columbia, Indiana, Utah, Virginia, Rhode Island, Iowa** and **Alabama**.

At the other end of the scale, **New Jersey** is and apparently always has been the national leader exporting its residents to other states' colleges and universities. In 1996, while 3502 freshmen entered the state to enroll in its colleges and universities, 22,218 recent New Jersey high school graduates left the state for colleges elsewhere. This huge net outflow of college freshmen has changed little over the last decade. In 1986 18,889 more freshmen left New Jersey than entered the state, and by 1996 this net outflow was 18,716 freshmen.

Illinois is another major net exporter of college freshmen. In 1996 7,410 freshmen entered the state for college, but 15,948 Illinois freshmen left the state for colleges elsewhere. This pattern has changed little over the last decade.

While New Jersey and Illinois are in a class by themselves when it comes to exporting freshmen to other states, other states are also substantial net exporters of their freshmen. These states include **Connecticut, New York** and **Maryland**.

While the basic trends in net interstate migration of college freshmen have been stable over the last decade in most states, trends are changing in a few states:

- **California** has moved from a net importer of college freshmen in 1986, to a steadily growing net exporter. Public higher education's severe budget troubles have

Interstate Migration of First-Time College Freshmen Who Were Recent High School Graduates

	1986			1988			1992			1994			1996		
	Out of	Into	Net Mig	Out of	Into	Net Mig	Out of	Into	Met Mig	Out of	Into	Net Mig	Out of	Into	Net Mig
Alabama	1592	3487	1895	1980	5764	3784	2111	6892	4781	2203	6373	4170	2397	5726	3329
Alaska	1046	40	-1006	1142	64	-1078	1088	264	-824	1230	201	-1029	1444	191	-1253
Arizona	1230	3721	2491	1505	3782	2277	1847	3935	2088	2158	4848	2690	2279	5134	2855
Arkansas	1492	997	-495	1679	2178	499	1823	2481	658	1846	2045	199	1753	2450	697
California	6431	10555	4124	8555	8204	-351	12529	12229	-300	15706	14277	-1429	14962	13034	-1928
Colorado	3529	1603	-1926	4205	5213	1008	4110	6049	1939	4662	5637	975	4483	5996	1513
Connecticut	9270	5079	-4191	9910	4966	-4944	10226	5601	-4625	10109	6044	-4065	10358	6764	-3594
Delaware	1142	2666	1524	1194	3096	1902	1289	2664	1375	1525	2686	1161	1363	2977	1614
Dist of Col	1114	4761	3647	1248	4656	3408	1111	5401	4290	1281	6718	5437	1304	6734	5430
Florida	7143	7312	169	8405	8375	-30	8853	8726	-127	9058	9449	391	8734	9956	1222
Georgia	4737	4971	234	5822	5624	-198	6758	6672	-86	6051	7500	1449	6203	7203	1000
Hawaii	1227	531	-696	1439	351	-1088	1559	764	-795	1755	756	-999	2069	1111	-958
Idaho	807	2350	1543	971	2651	1680	1443	3084	1641	1685	2456	771	1899	2137	238
Illinois	13133	4444	-8689	15885	5601	-10284	14552	7181	-7371	15858	6357	-9501	15948	7410	-8538
Indiana	2947	6113	3166	3509	9769	6260	3920	9836	5916	4558	9756	5198	4474	9876	5402
Iowa	2858	3762	904	3282	5209	1927	3158	6248	3090	3209	6294	3085	3024	6394	3370
Kansas	1282	3182	1900	1750	3486	1736	1945	3512	1567	2032	3513	1481	2125	3522	1397
Kentucky	1826	2529	703	2104	3707	1603	2235	3984	1749	2469	3838	1369	2769	3692	923
Louisiana	1858	3553	1695	2458	3719	1261	2776	4396	1620	3182	4966	1784	3177	4391	1214
Maine	1862	1282	-580	2050	1103	-947	2928	2069	-859	2968	2050	-918	3286	2255	-1031
Maryland	7790	3330	-4460	8628	4303	-4325	8937	5816	-3121	9415	6518	-2897	9935	6959	-2976
Massachusetts	9184	15390	6206	8985	17590	8605	11864	19354	7490	11586	20055	8469	12431	20739	8308
Michigan	4589	2346	-2243	5706	3191	-2515	5619	4922	-697	6322	5647	-675	5803	6045	242
Minnesota	5556	3991	-1565	6835	5458	-1377	6966	5834	-1132	7431	6292	-1139	7853	6548	-1305
Mississippi	1016	1664	648	1578	1788	210	1637	3059	1422	1892	3101	1209	1477	3257	1780
Missouri	3633	4539	906	4150	4901	751	4590	5991	1401	4770	6555	1785	5121	6703	1582
Montana	1004	155	-849	1172	352	-820	1481	1248	-233	1692	1324	-368	1722	1389	-333
Nebraska	1581	1665	84	2042	1807	-235	2177	2216	39	2229	2298	69	2149	2473	324
Nevada	812	194	-618	846	584	-262	1220	593	-627	1382	857	-525	1579	1054	-525
New Hampshire	2174	2677	503	2373	4091	1718	3003	4791	1788	3017	4684	1667	3394	4927	1533
New Jersey	20582	1693	-18889	21458	1879	-19579	21372	2868	-18504	22195	3038	-19157	22218	3502	-18716
New Mexico	1038	943	-95	1496	1180	-316	1621	1314	-307	2143	1314	-829	2347	1560	-787
New York	18664	16480	-2184	21112	12826	-8286	21809	17872	-3937	23581	19678	-3903	24268	21125	-3143
North Carolina	2005	9529	7524	2434	9708	7274	2428	11044	8616	2675	11133	8458	3044	10463	7419
North Dakota	407	1561	1154	581	2141	1560	1048	2538	1490	1044	2300	1256	1182	2527	1345
Ohio	7079	6265	-814	8858	8671	-187	9336	8991	-345	9690	9794	104	9282	10432	1150
Oklahoma	1509	1130	-379	1984	1958	-26	2176	2157	-19	2261	2295	34	2374	2368	-6
Oregon	1660	2306	646	2042	2760	718	2791	3341	550	3337	3721	384	3371	3867	496
Pennsylvania	10543	14662	4119	12278	16667	4389	12350	18835	6485	13038	19395	6357	13667	19850	6183
Rhode Island	1616	4256	2640	1762	2264	502	2020	6442	4422	2151	6700	4549	2408	6245	3837
South Carolina	2088	3114	1026	2432	3862	1430	2549	3534	985	2677	4400	1723	2701	5133	2432
South Dakota	953	1161	208	1149	1057	-92	1213	1517	304	1275	1719	444	1514	1339	-175
Tennessee	2933	4841	1908	3925	5450	1525	4071	5694	1623	4180	6300	2120	4367	6916	2549
Texas	4311	5031	720	6225	5793	-432	7597	6990	-607	8324	8486	162	9561	7666	-1895
Utah	788	496	-292	884	842	-42	990	4147	3157	1078	5426	4348	1045	5716	4671
Vermont	1048	3170	2122	1208	2490	1282	1583	3141	1558	1733	3229	1496	1781	3451	1670
Virginia	6105	7021	916	7485	8921	1436	7028	10704	3676	7244	10628	3384	7243	11282	4039
Washington	2559	2018	-541	3265	2364	-901	3855	3359	-496	4192	4153	-39	4732	4241	-491
West Virginia	1142	2529	1387	1459	4063	2604	1619	3637	2018	1622	3601	1979	1698	3411	1713
Wisconsin	3454	5783	2329	4641	6651	2010	5212	4308	-904	5386	4777	-609	6019	5021	-998
Wyoming	625	501	-124	597	803	206	892	631	-261	839	952	113	925	945	20
Puerto Rico							920	82	-838	761	40	-721	674	22	-652
Virgin Islands							331	0	-331	278	6	-272	325	5	-320
TOTALS	194974	203379	8405	228683	233933	5250	248566	278958	30392	264985	296180	31195	272261	304134	31873

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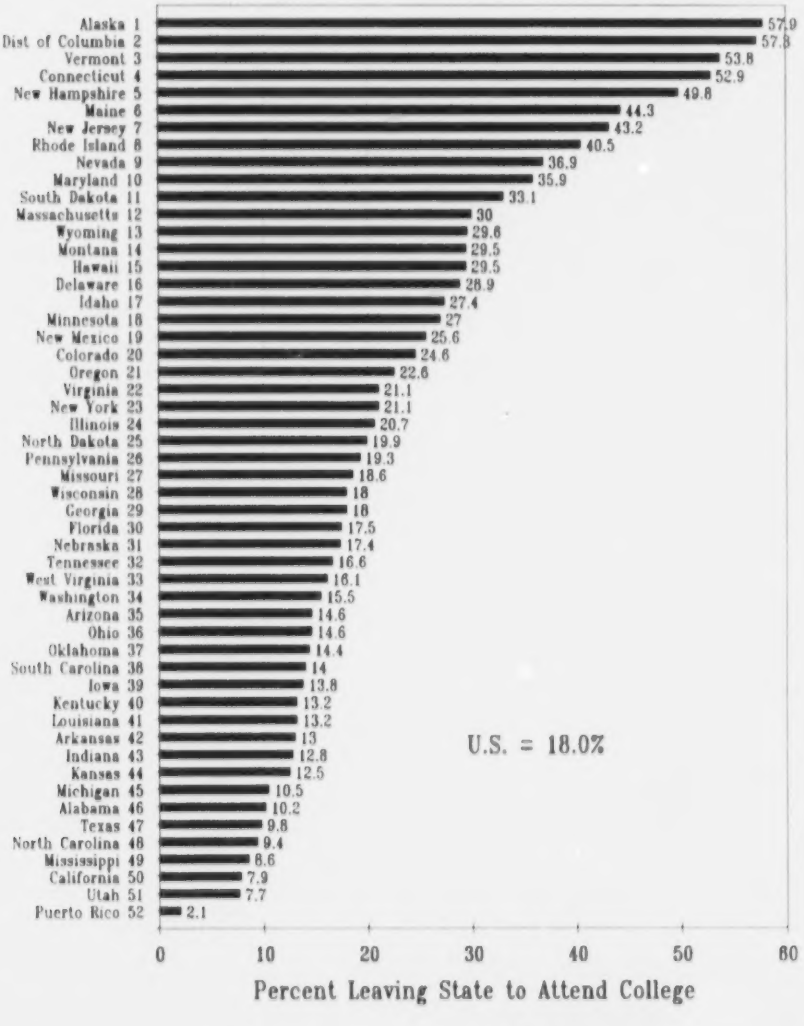
Emigration Rate for State Resident Freshmen, 1996



steadily increased the number of California freshmen leaving the state for higher education elsewhere from 6,431 in 1986 to 14,962 by 1996.

- **Michigan** has slowed its net hemorrhaging of freshmen. Largely by attracting more from other states, its large net outflow has been stopped over the last decade. **Ohio**'s data follow a similar pattern.
- **Wisconsin**'s net flow of college freshmen has moved from substantially positive in 1986 (+2329), to substantially negative in the 1990s (-998 by 1996). This pattern shows up in other data--for Pell Grant recipients--as well. This shift has occurred under the state's enrollment management plan for the University system.

Rates of Interstate Migration

When we control for differences between states in the size of the college freshman population from which migration begins, somewhat different patterns emerge. Here we examine three migration rates: the proportion each state's college freshmen that left their home state to attend college, the proportion of each state's freshmen that came from another states, and the net-migration rate for each state in 1996.

Emigration. In 1996 about 272,000 freshmen left their state of residence to attend college in another state, out of about 1,512,000 total resident freshmen. That is an emigration rate of 18.0 percent.

In four states, over half of those who went to college left their home state to enroll. These four are **Alaska, District of Columbia, Vermont** and **Connecticut.** Four more states sent over 40 percent of their freshmen to other states to attend college. Most of these states are small, and six of the top eight constitute New England, which fosters interstate student migration through its regional compact. In these states going to another state for college imposes lower geographic and price barriers than does emigration from other states.

At the other end of the scale, six states send fewer than 10 percent of their freshmen to other states' colleges and universities. These are **Puerto Rico, Utah, California, Mississippi, North Carolina** and **Texas.** Some of these states are large and can offer a wide range of choices within their borders. Other states are notably poor, and thus cost considerations could discourage emigration to attend college.

These emigration patterns tend to be fairly stable over time. For example, nine of the top ten emigration states in 1996 were also in the top ten in 1994. The same is generally true at the bottom of the ranking: most of those who exported a very small share of their freshmen in 1996 were near the bottom in the 1994 rankings as well.

Immigration. The proportion the

freshmen enrolled in each state's colleges and universities that come from outside of the state is its immigration rate. In 1996 about 304,000 freshmen (out of 1,512,000) came from outside of a state to enroll in its institutions. (This is greater than the number who emigrated because it includes both foreign students and students whose state of residence could not be determined.) The immigration rate was 19.7 percent in 1996, compared to 20.2 percent in 1994.

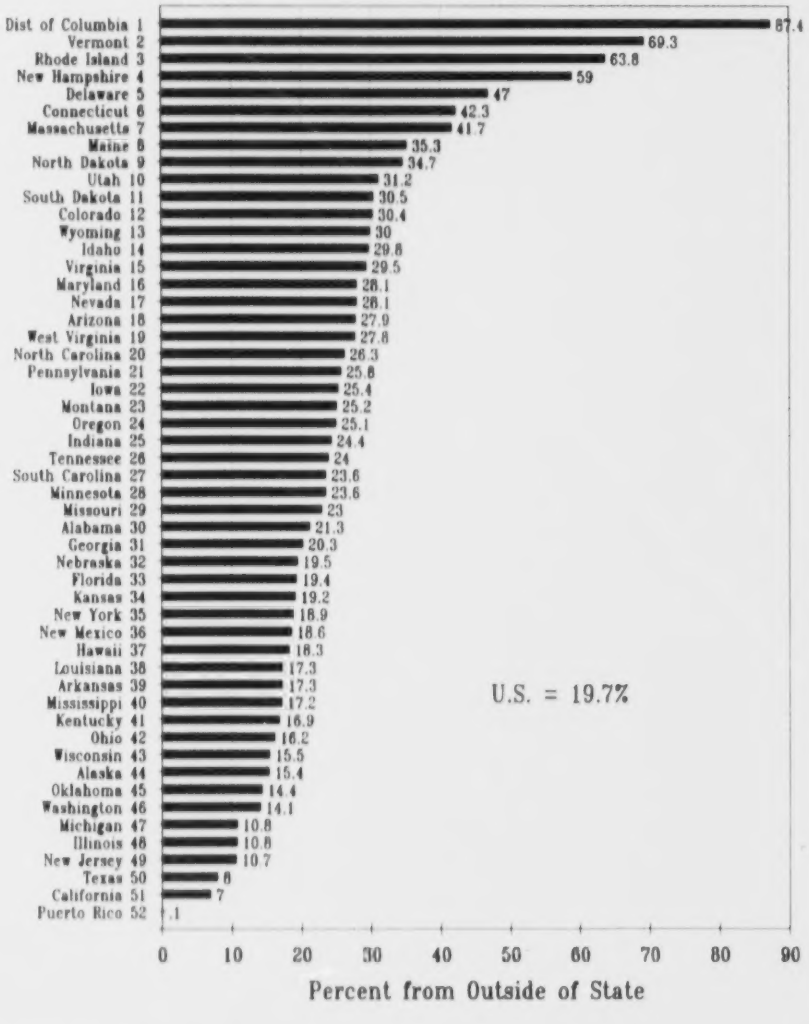
The states with the largest proportional enrollment of nonresidents were also the smallest. In 1996 they included **District of Columbia, Vermont, Rhode Island** and **New Hampshire**, all with more than 50 percent nonresidents. Other states where more than 40 percent came from outside the state were **Delaware, Connecticut** and **Massachusetts**.

At the other end of the scale, those states with the smallest proportions of nonresidents were **Puerto Rico, California, Texas, New Jersey, Illinois** and **Michigan.** Each is very large, and Puerto Rico is certainly isolated.

Some states rank near the top of both the emigration and immigration rankings. **Vermont**, for example, ranks third among the states in the rate at which its residents leave the state to study in another state. Vermont ranks second among the states in the proportion of students enrolled in Vermont institutions that come from other states. Vermont both fosters emigration of its residents by making state financial aid grants portable to all other states (and a few nearby Canadian universities), and aggressively recruits nonresidents to come to its colleges and universities.

Other states that both export and import large numbers of college freshmen include **District of Columbia, Rhode Island, Connecticut, New Hampshire,** and **Maine**. It is no accident that the New England states share students so freely: the New England Board of Higher Education fosters interstate student migration through its New England Regional Student Program with public institution tuition discounts in certain majors.

Proportion of Freshmen from Outside of State, 1996



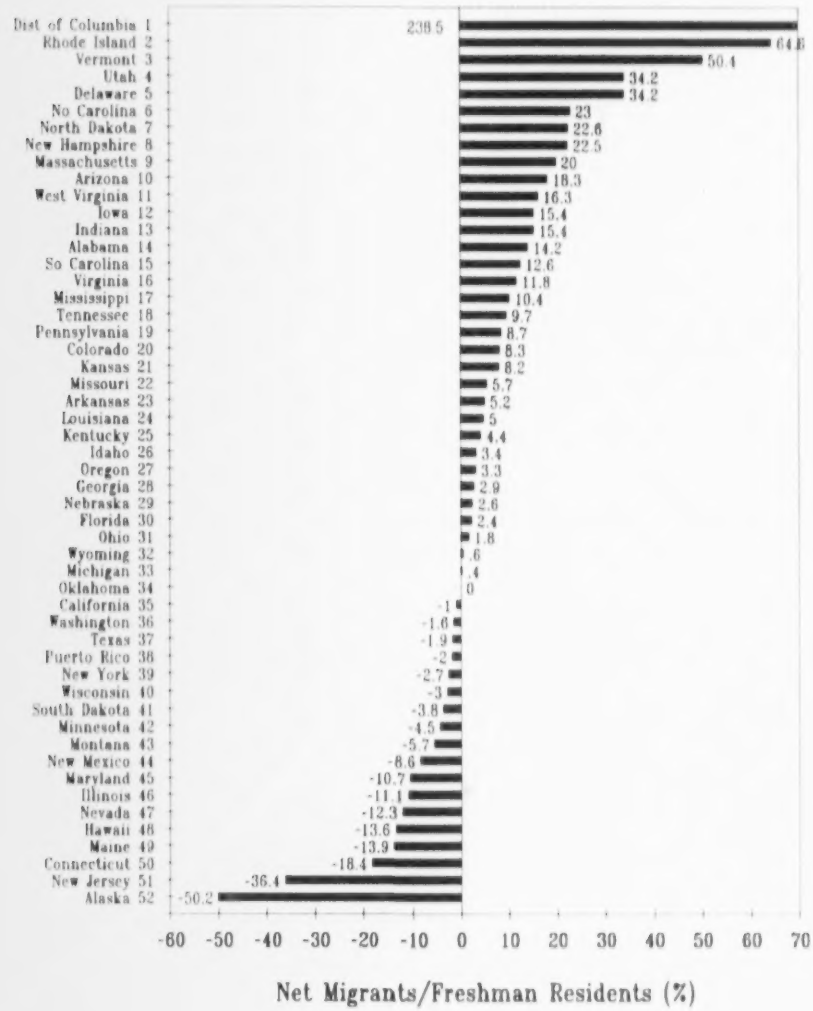
Net migration. Here we again use rates to control for differences in state size when examining interstate student migration. We calculate a net freshmen migration rate for each state as:

(into-out of)/state residents

The states with the largest positive net migration rates in 1996 were **District of Columbia, Rhode Island, Vermont, Utah** and **Delaware**. All are small, most even tiny, states. But since we have controlled for size in the rate-measuring formula, these places appear to have something other than small size going for them.

Our studies of institutional graduation rates (**OPPORTUNITY**, April 1997)

Freshmen Net Migration Rates by State, 1996



and persistence rates (**OPPORTUNITY**, June 1997) give strong hints. These states all had positive state residual (actual minus predicted) institutional graduation rates. Rhode Island ranked first among the states, Delaware was second, Vermont fourth, Utah twenty-first and DC was twenty-fourth. This means that 4-year institutions in these states provide strongly supportive environments for student success--a solid measure of institutional quality.

On the frosh-to-soph persistence rates, the story is less clear, but still indicative. Rhode Island ranked sixth, Delaware seventh, DC eighteenth, Vermont twenty-eighth and Utah fifty-first. Residuals (actual minus predicted persistence rates) were positive in the first four states. In Utah the Mormon mission call to young men between the freshman and sophomore years of college destroys meaning of frosh-to-soph persistence for the analysis in Mormon territory. So with the exception of Utah, the persistence data also support the view of supportive environments provided by 4-year colleges and universities in these states.

At the other end of the scale, freshmen net migration rates were most negative in **Alaska** and **New Jersey**. Few freshmen come to these states to study, but relatively large numbers emigrate. Other states with large negative net migration rates include **Connecticut, Maine, Hawaii, Nevada, Illinois** and **Maryland.**

Pell Grant Net Migration

Data from the *Pell Grant End-of-Year Report* provide additional information of interstate migration of undergraduate students. Pell Grants are only awarded to students from low income family backgrounds. Moreover, students in every state are subject to the same eligibility criteria. Therefore, these data are especially useful in comparing the attractiveness or lack thereof of each states' higher educational offerings for students from notably low income families. Furthermore, comparing the net migration rates for Pell Grant recipients to freshmen students generally provides even more interesting insight into the ways different states treat their low income students compared to more affluent students.

For the 1995-96 award year--the most recent year for which Pell Grant program statistics have been released--the net migration of Pell Grant recipients ranged from -15,016 in **California**, to +11,576 in **Arizona**.

That is to say, while 421,418 California residents received and used Pell Grants in 1995-96, only 406,402 Pell Grants were used in California institutions. The difference of -15,016 means that this many more Californians with Pell Grants left their state to study in another state than came to California to study in California institutions. Other states

with large net outflows of Pell Grant recipients are **New Jersey** (-9837), **Illinois** (-9344), **Florida** (-5018), **New York** (-4640), **Michigan** (-3679), **Texas** (-3213) and **Maine** (-2732). As a matter of practice, these states have chosen to ship this many of their low income undergraduate postsecondary students to other states for their educations.

The largest net importers of Pell Grant recipients, after Arizona, are **Alabama** (+7196), **Virginia** (+5566), **Tennessee** (+5492), **Utah** (+5016), **District of Columbia** (+4656), **North Carolina** (+4382), **Massachusetts** (+4234), **Rhode Island** (+4144), **Missouri** (+3966) and **Kentucky** (+3110).

The *rates* of Pell Grant recipient net migration control for difference in state size as measured by the number of state resident Pell Grant recipients. The net migration rate of Pell Grant recipients is calculated by the same formula used to calculate net migration for college freshmen.

rate = net migrants/state residents

In 1995-96 the Pell Grant recipient net migration rate ranged from +84.7 percent for the **District of Columbia**, to -22.2 percent for **Alaska**.

Other states with high Pell Grant net migration rates include **Rhode Island** (+33.6 percent), **Arizona** (+19.7 percent), **Utah** (+14.5 percent) and **Alabama** (+11.6 percent).

Other states with notably negative Pell Grant recipient net migration rates were **Maine** (-16.4 percent), **New Jersey** (-12.2 percent), **Nevada** (-9.5 percent), **Hawaii** (-8.5 percent) and **Montana** (-8.4 percent).

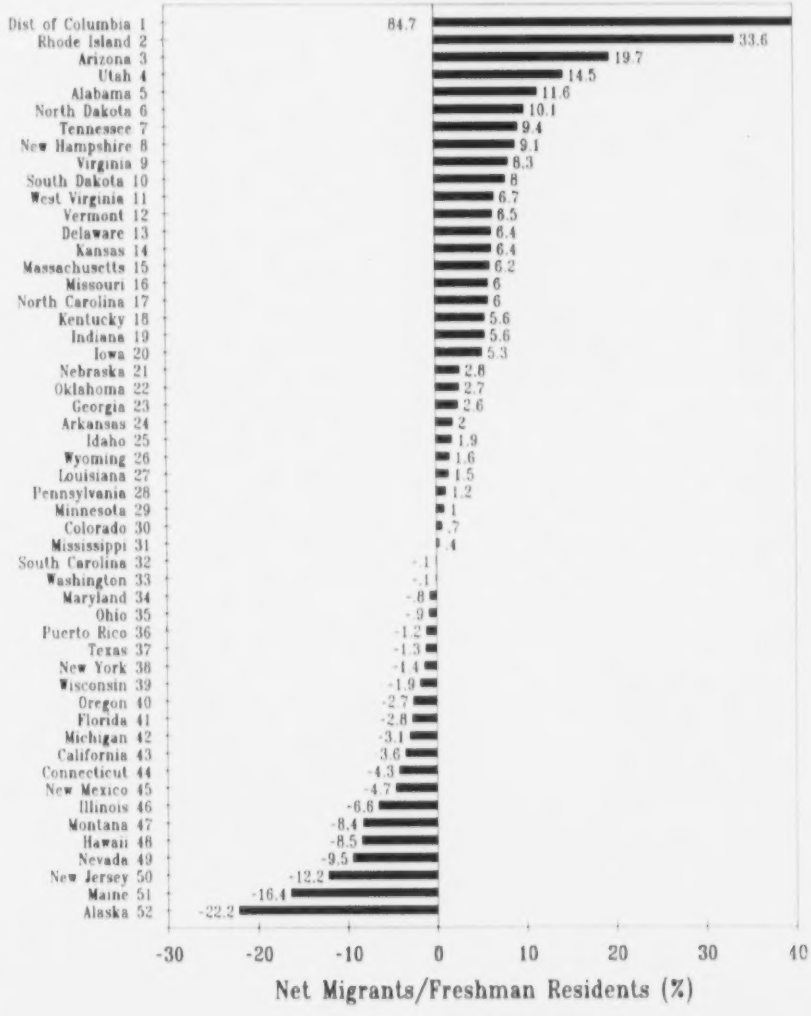
Comparison of Net Migration Rates

The formulas used to calculate state net migration rates for freshmen and Pell Grant recipients are identical, and thus invite comparison. One measures all freshmen, and captures affluent freshmen especially well. The other is limited to low income undergraduates. However, we do not want to make too much of this comparison because the data used in the rate calculations differ in year and ages of covered cohorts. Nevertheless, some useful insights are gleaned through the comparison.

First and probably most important, the net migration rates are confirming. In 45 of the 52 "states" the signs on the net migration rate for freshmen are the same as the signs on the net migration rate for Pell Grant recipients. If the net migration rate for freshmen was negative, it also was negative for Pell Grant recipients. If the net rate was positive for one, it was also positive for the other. This suggests that state attitudes, policies, programs and funding that attract or repel students apply to both freshmen and low income students as well.

Second, the seven states where the sign on the net migration rates are opposite (+/-) raise fascinating

Pell Grant Recipient Net Migration Rates, 1995-96



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questions. There are two groups of states here. In the first group, the sign on the net migration rate for freshmen is positive, while the sign on the rate for Pell recipients is negative. This group includes **South Carolina, Oregon, Florida, Michigan** and **Ohio.** Higher education in these states appears to be relatively attractive to students from affluent family backgrounds, but relatively repulsive to students from low income families. This would indicate especially regressive approaches to fostering higher educational opportunity in these states.

The second group of states have negative signs on net migration rates for freshmen, but positive signs on net rates for Pell Grant recipients. These states are **South Dakota** and **Minnesota**. These states appear to offer relatively unattractive postsecondary education to affluent students, but relatively attractive opportunities to students from low income family backgrounds.

Limitations in available data make these conclusions highly tentative. Nevertheless, they are suggestive of interesting differences in state perspectives on providing attractive postsecondary educational opportunities to students from high- and low-income family backgrounds.

Economic Implications of Migration

This analysis has examined the flows of students between states. Our interpretation of the net flows is that some states provide relatively attractive postsecondary educational opportunities and thus attract more students from other states than they export to those states. In contrast, other states provide relatively unattractive postsecondary educational opportunities and this is reflected in the net outflow of students to other states.

There are significant economic implications to these net flows of students. Students spend a great deal of real money on their postsecondary educations. These expenditures add directly and indirectly to the economic activity of the communities and states in which they are located. States that experience positive net flows of students add to their gross state products. Other states that have negative net flows of students detract from their potential gross state products and hence economic prosperity.

Here we make a very limited attempt to estimate the economic implications of positive and negative net flows of students between states. Our effort is limited to Pell Grant recipients--a low income population--and thus underestimates probably by at least an order of magnitude the broadest measure of economic effects of net flows of students on state economic activity. We do this mainly to illustrate the principle that providing attractive postsecondary educational opportunities has significant economic benefits to states. Failure to do so also imposes corresponding economic penalties. This economic language seems to be a language that state policy makers understand and respond to.

The most straightforward calculation is each state's gain or loss of Pell Grant revenues that result from net migration. These data are shown in the spreadsheet on the following page. For example, Alabama has a positive net flow of 7196 Pell Grant recipients. That many more undergraduates with Pell Grants came to Alabama than left the state for their postsecondary educations. Bringing with them an average Pell Grant of $1465 (calculated from the *Pell Grant End-of-Year Report* for 1995-96), these students added $10.5 million in revenues to the bottom line of Alabama institutions and state economic activity.

But these are only a small part of the economic benefits these Pell Grant recipients brought with them to Alabama. They spent far more than their Pell Grants during their year in Alabama. They bought tuition and fees, books and supplies, food and housing, transportation, personal and medical care. We have estimated what they spent for these items from the College Board's annual survey of costs of attendance for the 1995-96 academic year. Here we have substituted national average nonresident tuition and fees from the State of Washington Higher Education Coordinating Board's annual survey of public institution tuition and fee charges.

Tuition & fees (nonres)	$6600
Books and supplies	600
Room and board	4000
Transportation	560
Other expenses	1300
TOTAL	$13,060

If the 7,196 additional Pell Grant recipients spent an average of $13,060 each for their year of study in Alabama, then they spent about $94 million in 1995-96 over nine months.

These expenditures are multiplied in the economies of the communities and states in which they occur. They increase the wealth of an economic unit not just directly, by indirectly. As cited in Leslie and Brinkmans' *The Economic Value of Higher Education*:

> *Each payment to a first line firm sets off a chain of transactions which involves its suppliers and employees. Thus, retail purchases stimulate industrial activity at wholesalers, service organizations and manufacturers; [sic] while these organizations and the first line forms cause "induced" effects through payments to employees and shareholders, some of this*

Economic Impact on States of Pell Grant Recipient Net Migration

	Net Migration of Pell Grant Recipients	*Average Pell Grant*	*Pell Revenue: Gain or Loss*	*Average Cost of Attendance*	*Student Expenditure Gain/Loss*	*State Multiplier*	*Gross Effect: Gain/Loss*
Alabama	7,196	$1,465	$10,542,140	$13,060	$93,979,760	1.8	$169,163,568
Alaska	-1,160	$1,556	-$1,804,960	$13,060	-$15,149,600	1.8	-$27,269,280
Arizona	11,576	$1,462	$16,924,112	$13,060	$151,182,560	1.8	$272,128,608
Arkansas	679	$1,547	$1,050,413	$13,060	$8,867,740	1.8	$15,961,932
California	-15,016	$1,609	-$24,160,744	$13,060	-$196,108,960	1.8	-$352,996,128
Colorado	328	$1,456	$477,568	$13,060	$4,283,680	1.8	$7,710,624
Connecticut	-1,087	$1,391	-$1,512,017	$13,060	-$14,196,220	1.8	-$25,553,196
Delaware	365	$1,375	$501,875	$13,060	$4,766,900	1.8	$8,580,420
Dist of Col	4,656	$1,498	$6,974,688	$13,060	$60,807,360	1.8	$109,453,248
Florida	-5,018	$1,509	-$7,572,162	$13,060	-$65,535,080	1.8	-$117,963,144
Georgia	2,312	$1,347	$3,114,264	$13,060	$30,194,720	1.8	$54,350,496
Hawaii	-749	$1,493	-$1,118,257	$13,060	-$9,781,940	1.8	-$17,607,492
Idaho	367	$1,547	$567,749	$13,060	$4,793,020	1.8	$8,627,436
Illinois	-9,344	$1,452	-$13,567,488	$13,060	-$122,032,640	1.8	-$219,658,752
Indiana	3,533	$1,421	$5,020,393	$13,060	$46,140,980	1.8	$83,053,764
Iowa	2,257	$1,419	$3,202,683	$13,060	$29,476,420	1.8	$53,057,556
Kansas	2,423	$1,433	$3,472,159	$13,060	$31,644,380	1.8	$56,959,884
Kentucky	3,110	$1,538	$4,783,180	$13,060	$40,616,600	1.8	$73,109,880
Louisiana	1,101	$1,608	$1,770,408	$13,060	$14,379,060	1.8	$25,882,308
Maine	-2,732	$1,469	-$4,013,308	$13,060	-$35,679,920	1.8	-$64,223,856
Maryland	-414	$1,420	-$587,880	$13,060	-$5,406,840	1.8	-$9,732,312
Massachusetts	4,234	$1,485	$6,287,490	$13,060	$55,296,040	1.8	$99,532,872
Michigan	-3,679	$1,385	-$5,095,415	$13,060	-$48,047,740	1.8	-$86,485,932
Minnesota	629	$1,379	$867,391	$13,060	$8,214,740	1.8	$14,786,532
Mississippi	183	$1,618	$296,094	$13,060	$2,389,980	1.8	$4,301,964
Missouri	3,966	$1,447	$5,738,802	$13,060	$51,795,960	1.8	$93,232,728
Montana	-1,453	$1,557	-$2,262,321	$13,060	-$18,976,180	1.8	-$34,157,124
Nebraska	708	$1,360	$962,880	$13,060	$9,246,480	1.8	$16,643,664
Nevada	-830	$1,430	-$1,186,900	$13,060	-$10,839,800	1.8	-$19,511,640
New Hampshire	1,027	$1,399	$1,436,773	$13,060	$13,412,620	1.8	$24,142,716
New Jersey	-9,837	$1,527	-$15,021,099	$13,060	-$128,471,220	1.8	-$231,248,196
New Mexico	-1,474	$1,523	-$2,244,902	$13,060	-$19,250,440	1.8	-$34,650,792
New York	-4,640	$1,610	-$7,470,400	$13,060	-$60,598,400	1.8	-$109,077,120
North Carolina	4,382	$1,461	$6,402,102	$13,060	$57,228,920	1.8	$103,012,056
North Dakota	1,236	$1,495	$1,847,820	$13,060	$16,142,160	1.8	$29,055,888
Ohio	-1,170	$1,435	-$1,678,950	$13,060	-$15,280,200	1.8	-$27,504,360
Oklahoma	1,552	$1,520	$2,359,040	$13,060	$20,269,120	1.8	$36,484,416
Oregon	-983	$1,464	-$1,439,112	$13,060	-$12,837,980	1.8	-$23,108,364
Pennsylvania	1,740	$1,496	$2,603,040	$13,060	$22,724,400	1.8	$40,903,920
Rhode Island	4,144	$1,419	$5,880,336	$13,060	$54,120,640	1.8	$97,417,152
South Carolina	-58	$1,416	-$82,128	$13,060	-$757,480	1.8	-$1,363,464
South Dakota	1,046	$1,465	$1,532,390	$13,060	$13,660,760	1.8	$24,589,368
Tennessee	5,492	$1,499	$8,232,508	$13,060	$71,725,520	1.8	$129,105,936
Texas	-3,213	$1,491	-$4,790,583	$13,060	-$41,961,780	1.8	-$75,531,204
Utah	5,016	$1,396	$7,002,336	$13,060	$65,508,960	1.8	$117,916,128
Vermont	519	$1,399	$726,081	$13,060	$6,778,140	1.8	$12,200,652
Virginia	5,566	$1,472	$8,193,152	$13,060	$72,691,960	1.8	$130,845,528
Washington	-86	$1,520	-$130,720	$13,060	-$1,123,160	1.8	-$2,021,688
West Virginia	1,650	$1,610	$2,656,500	$13,060	$21,549,000	1.8	$38,788,200
Wisconsin	-1,036	$1,421	-$1,472,156	$13,060	-$13,530,160	1.8	-$24,354,288
Wyoming	119	$1,485	$176,715	$13,060	$1,554,140	1.8	$2,797,452

income being respent within the community. (pp. 90-91)

Our review of Leslie and Brinkmans' meta-analysis of these multiplier studies leads us to choose a state multiplier of 1.8 (p. 103).

Thus, the estimated $94 million spent by the 7,196 additional Pell Grant recipients enrolled in Alabama postsecondary institutions adds a total of about $169 million to Alabama economic activity in 1995-96.

Under these calculations, the states with the largest economic benefits from positive net flows of Pell Grant recipients in 1995-96 were **Arizona** ($272 million), **Alabama** ($169 million), **Virginia** ($131 million), **Tennessee** ($129 million), **Utah** ($117 million) and the **District of Columbia** ($109 million). But note, as we stated earlier, the economic gains resulting from far broader measures of net student flows are likely to be at least an order of magnitude greater than those estimated here.

The states with the largest economic losses resulting from the negative net flow of Pell Grant recipients in 1995-96 were **California** (-$353 million), **New Jersey** (-$231 million), **Illinois** (-$220 million), **Florida** (-$118 million) and **New York** (-$109 million). Again, these estimates substantially underestimate the economic losses to states that result from negative net student flows because the Pell Grant recipient population is such a small fraction of interstate student migration.

Conclusions

As we said at the outset, we interpret interstate student migration of postsecondary students to be a direct reflection of the attractiveness or unattractiveness of each state's educational offerings. This is a brutal, zero-sum evaluation of winners and losers.

- This analysis offers a direct measure at any point in time where data are available.
- It also offers comparisons of how attractive each state's educational opportunities are to all freshmen as well as to undergraduates from low income family backgrounds.
- It also offers the chance to examine changes in any state's relative attractiveness of educational opportunities over time where time series data are available.
- And although not attempted here, analysis of interstate student flows with both the IPEDS and Pell Grant recipient data offers the chance to pinpoint which sectors--public/private/proprietary and 2-year/4-year--are providing relatively attractive or unattractive educational opportunities.

This is powerful, market-driven information. It supersedes by a wide margin the value of the rhetoric of higher education leaders who uniformly lay claim to the highest levels of educational quality. Students, with their feet, sort through this hoopla to seek what for them is most valuable. They tell us, each year for the last 30 years of the survey of American college freshmen by UCLA, what they are most interested in. In the survey of fall 1996 freshmen (corresponding to the IPEDS data used here) the percentage of freshmen who said each of the following were very important factors in college choice were:

Academic reputation	51.6%
Graduates get good jobs	46.8%
Size of college	35.0%
Offered financial assistance	33.1%
Low tuition	31.3%
Grads go to top grad schools	29.6%
Good social reputation	23.3%
Wanted to live near home	22.2%
Offers special programs	21.1%

By these measures, some states are clearly providing relatively very attractive opportunities for postsecondary education are training. The states with bragging rights begin with these (as measured by positive net migration rates on page 8):

1. District of Columbia
2. Rhode Island
3. Vermont
4. Utah
5. Delaware
6. North Carolina
7. North Dakota
8. New Hampshire
9. Massachusetts
10. Arizona

Twenty-three other states had positive net migration rates in 1995-96, and thus deserve very honorable mention.

At the other end of the scale are the states with negative net migration rates. These states offer relatively unattractive postsecondary educational opportunities. Beginning with those whose own students have told us through their emigration are providing the most relatively unattractive higher educational opportunities,

52. Alaska
51. New Jersey
50. Connecticut
49. Maine
48. Hawaii
47. Nevada
46. Illinois
45. Maryland
44. New Mexico
43. Montana
42. Minnesota

In addition to these eleven states, seven other states sent more of their residents elsewhere than they were able to attract from other states.

States should ponder the meaning of their rankings. At the minimum, states should pursue the readily available data to identify the relative strengths and weaknesses within their postsecondary systems. Then they should *listen to their students* to find out what emigrants find elsewhere that is not available at home, and why immigrants chose their own states.

Employment by Industry 1939 to 2006

Recently shared data from the Bureau of Labor Statistics provides evidence of the slow death of the high wage/low skill labor market. These data offer little hope to those who consider launching their careers in the labor market directly from high school. The shifts in employment by industry that have been occurring over the last five decades are projected to continue for the next decade as well.

Here we examine long-term trends and patterns in employment by industry. To clarify these trends, this analysis summarizes industrial employment into three broad categories: goods producing industries, private service industry and government. The trends are very clear:

- Employment in goods producing industries has declined from a peak of 47.4 percent of all employment in 1943 to 20.2 percent by 1997. By 2006 it is projected to decline further to 17.6 percent of employment.
- Employment in government increased from 12.8 percent of employment in 1941 to a peak of 19.1 percent in 1975, and has since declined to 16.1 percent in 1997. This is projected to decline further to 15.5 percent by 2006.
- Employment in private service industries increased from a low of 38.3 percent of employment in 1943 to 63.7 percent by 1997, and is projected to increase further to 72.2 percent by 2006.

These changes imply worker dislocation, changing careers and new jobs for young people that differ markedly from those of their parents. These shifts also have compelling meaning for those states whose employment is most heavily concentrated in industrial sectors projected for decline.

Distribution of Nonagricultural Employment by Industry 1939 to 1997

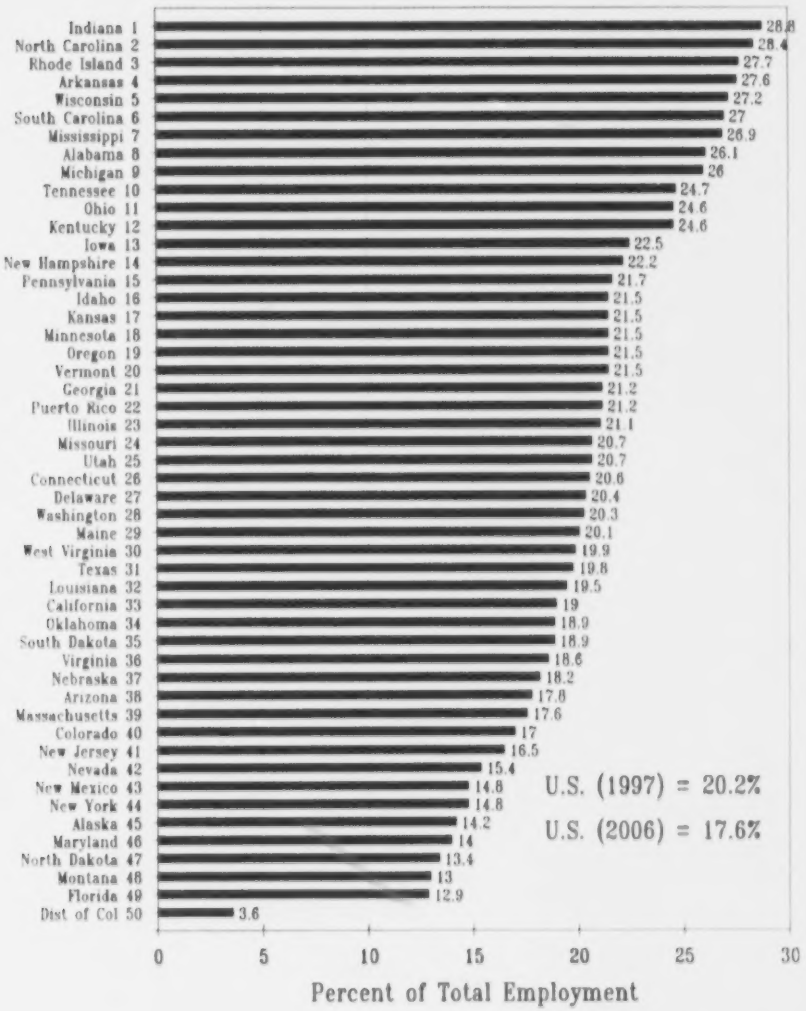
The Data

All of the data used in this analysis are produced by the Bureau of Labor Statistics. Some have been shared privately, some downloaded from the BLS website, and the rest have been published in BLS publications.

Our analysis is limited to nonagricultural payroll employment. This excludes agriculture, private household, nonagricultural self-employment and unpaid family. We have collapsed industrial employment classifications to emphasize the trends and shifts that are occurring in the labor force.

Goods producing industries include mining, construction and manufacturing. Of the three, manufacturing is by far the largest. All three have a shrinking share of

Employment in Goods Producing Industries, 1997



employment.

- Mining's share of employment has declined from 2.9 percent in 1940 to 0.5 percent of employment in 1997, and is projected to decline to 0.3 percent by 2006.
- Construction's share has declined from 5.8 percent in the late 1950s to 4.6 percent by 1997, and is projected to decline to 4.3 percent by 2006.
- Manufacturing employment has declined from 41.5 percent in 1943 to 15.2 percent by 1997, is projected by BLS to decline further to 13.3 percent by 2006.

Private services industries include: transportation and public utilities; wholesale and retail trade; finance, insurance and real estate; and services.

- Transportation and public utilities have declined as a proportion of employment from a peak of 9.7 percent after World War II to 5.3 percent by 1997 and will decline to 5.2 percent by 2006.
- Wholesale and retail trade have grown as a proportion of employment from 21.0 percent in 1939 to 23.5 percent by 1997. All of this growth has occurred in retail trade.
- Finance, insurance and real estate has grown slowly too, from 4.7 percent in 1939 to 5.8 percent by 1997.
- The real growth has been in private services, from 11.4 percent in 1939, to 19.8 percent by 1980, and to 29.1 percent in 1997. BLS projects private services employment to grow to 32.9 percent by 2006. In fact, about 64 percent of the employment growth between 1996 and 2006 will be in private services.

Government employment includes government at all levels: federal, state and local. Employment in government grew from about 13 percent in 1940, to a peak of about 19 percent in 1975, and has since declined to 16.1 percent. Over the next decade, federal employment is projected to decline while state and local government employment is projected to increase.

The Major Shifts

These data describe a major shift in employment by industry from goods production to service provision.

The production of goods that once required nearly 50 percent of employed workers now requires just 20 percent of all employees, and this will continue to drop further over the next decade to about 17 percent of employment. These declines are primarily attributable to the decline of manufacturing employment, from a peak of about 41 percent during World War II, to 15.2 percent by 1997, and a projected 13.2 percent by 2006.

Replacing goods-producing employment will be service-providing jobs. Private services as a proportion of employment has grown from about 38 percent in the early 1940s to nearly 64 percent in 1997, and will grow further to about 72 percent by 2006. Small portions of this growth are attributable to employment growth in

retail trade. But by far the largest growth has occurred in private services, from less than 10 percent at the end of World War II to about 29 percent by 1997 and nearly 33 percent by 2006.

Implications for States

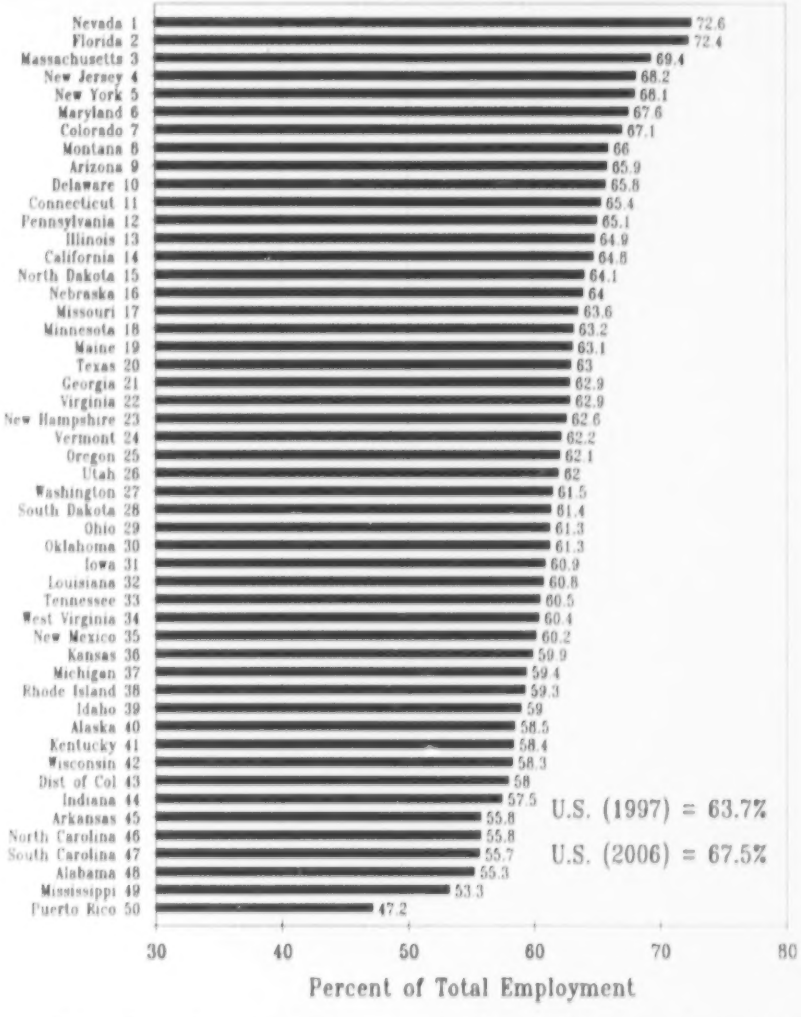
Employment distribution between goods producing, private services and government industrial sectors varies widely between states.

The states with the largest shares of employment in declining industries are likely to experience the greatest employment dislocations. The states with more than 25 percent of their employment in goods producing industries in 1997 include **Indiana, North Carolina, Rhode Island, Arkansas, Wisconsin, South Carolina, Mississippi, Alabama** and **Michigan.** While these states may continue to have the largest shares of goods producing industrial employment, the long-term and projected continuing decline in this share of employment may affect employment opportunities more here than elsewhere. If this occurs, then higher education will likely have special responsibilities to retrain laid-off workers in these states.

The states with especially large shares of employment in government also face some relative reductions in employment. These "states" include **District of Columbia, Puerto Rico, Alaska, New Mexico, North Dakota** and **Montana**.

The states with the largest shares of employment in growing industries are likely to experience the least disruptions. They may be positioned to take advantage of private service industry-based employment growth. These states include **Nevada, Florida, Massachusetts, New Jersey, New York, Maryland** and **Colorado.** This too represents both opportunity and responsibility for higher education to educate and train future workers for these growth opportunities.

Employment in Private Service Industries, 1997



Implications for Students

More than any other group, the concern of **OPPORTUNITY** is for students and their futures. The data examined here provide a breadth of perspective students are unlikely to see on their own.

What one sees today was not always this way, nor is it likely to be this way forever. Over a 40 to 50 year working life, great changes have occurred and will likely continue to occur. Foremost among these is the sharp decline in goods-producing employment as a proportion of total employment. While factory work, or construction or even mining in some places appear to offer high wages to those fresh out of high school, these industries represent a declining share of employment opportunities. And because they are in decline, tenure may be less secure than it is in other growing industrial sectors.

The certainty of change makes the

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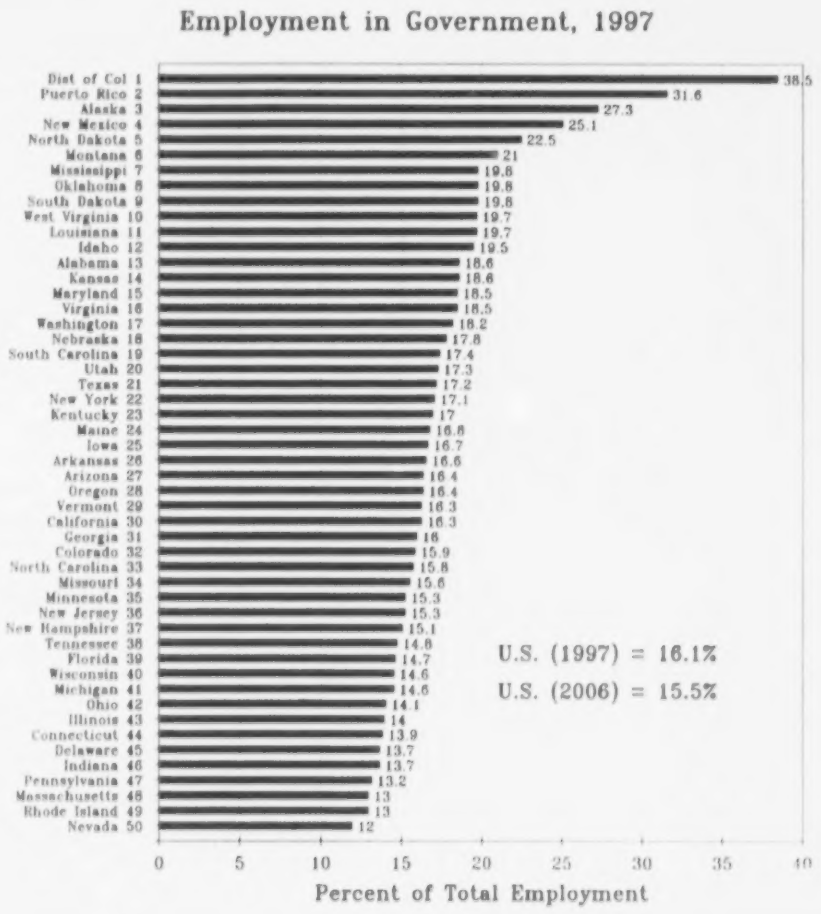
importance of education all important to employees. While an employer may take an employee's job away, he can't take away the employee's education.

The relationship between educational attainment and income is emphasized often in these pages. The more the better. But other economic benefits are just as clear, such as between unemployment and educational attainment. Unemployment and educational attainment are negatively related: more education means less unemployment. There are more jobs for the better educated and they are more stable than are the jobs available to the less well educated. Even more dramatic relationships exist between poverty rates and educational attainment.

Education--or human capital--equips one to perform and prosper in a dynamic world of economic change. Increasingly this is a service-based economy. These employment by industry data can help both individuals and states prepare for the employment opportunities of the future.



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Number 71 **Oskaloosa, Iowa** **May 1998**

A record-breaking year!

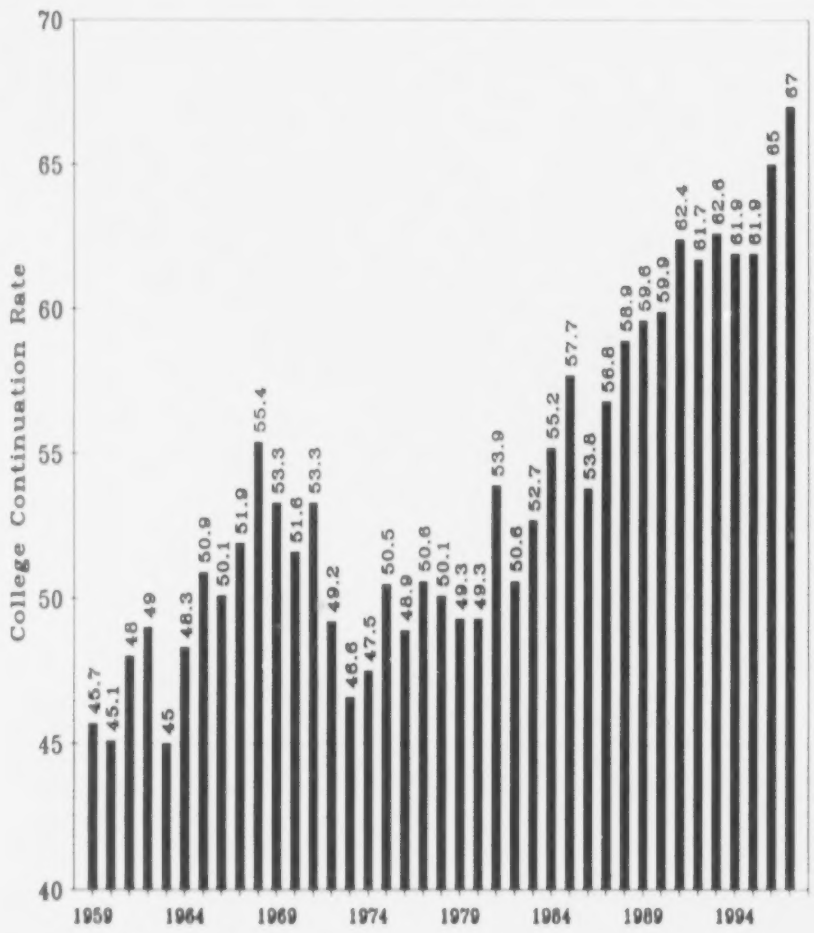
College Continuation Rates for 1997 High School Graduates

During the 1996-97 school year, 2,769,000 students graduated from public and private high schools in the United States. By October of 1997, 1,856,000 of them were enrolled in college. The college continuation rate for the high school class of 1997 was 67.0 percent.

This was a year of record-breaking achievements and new all-time high records:

- The *number* of college freshmen enrolling straight out of high school was the highest on record, up 7.3 percent over the previous record in 1996.
- The *rate* at which the 1997 high school graduates enrolled in college immediately following high school graduation was the highest on record, up 2.0 percentage points over the previous record of 65.0 percent set in 1996.
- The *rate* at which male high school graduates continued their enrollment in college was 63.5 percent, breaking the previous record of 63.2 percent set nearly three decades ago in 1968 during the Vietnam War.
- The *rate* at which female high school graduates continued their enrollment in college was 70.3 percent, breaking the previous record of 69.7 percent set in 1996.
- The *rate* at which white high school graduates continued their educations in college immediately following high school was 67.5 percent, breaking the previous record of 65.8 percent set in 1996.
- The *rate* at which black high school graduates continued their educations in college immediately after graduation reached 59.6 percent, a new record breaking the

College Continuation Rates
for Recent High School Graduates
1959 to 1997



previous record of 55.9 percent set in 1993.

- The *rate* at which Hispanic high school graduates went on to college after high school reached 65.5 percent, a new record, breaking the previous record of 62.5 percent set in 1993.

By these measures, it *appears* that college access has never been better. But appearances can be deceiving, and that is the case here too. There is a dark side to this picture that begins before high school graduation. It is measured by the numbers of and rates at which students leave high school before graduation.

- Between October of 1996 and October of 1997, 502,000 students dropped out of high school. This was 15.3 percent of the total of high school graduates and dropouts.
- By this measure, the high school dropout rate was 17.6 percent for males, 13.1 percent for females, 14.8 percent for whites, 18.6 percent for blacks and 26.5 percent for Hispanics.

None of these high school dropout rates are even close to the 10 percent national goal to be achieved by 2000.

What makes these figures particularly ominous is the growing importance of postsecondary education and training to the welfare of individuals and society. Since 1973 family income has not grown at all in real terms. In 1996 it is actually below where it stood in 1973. But family income has been substantially redistributed--according to educational attainment.

- Those families headed by persons with least formal education and/or training have experienced substantial declines in their incomes and the living standards those incomes support.
- At the other end of the educational attainment scale, families headed by persons with the most formal educations have seen real gains in their incomes and the living standards those higher incomes provide.

This issue of **OPPORTUNITY** examines these recently released data from three perspectives: college continuation, high school attrition and labor force participation. Each perspective tells an important story about the transition from high school to adult roles.

The Data

The data used throughout this issue of **OPPORTUNITY** were collected in the October 1997 Current Population Survey (CPS). This is a monthly survey of about 50,000 U.S. households. Its primary function is to collect information on the labor force, employment and unemployment. The CPS is conducted monthly for the Bureau of Labor Statistics (BLS) by the Census Bureau.

The results are published by the Bureau of Labor Statistics:

"College Enrollment and Work Activity of 1997 High School Graduates." (May 1998.) *News.* USDL 98-171. Washington, DC: Bureau of Labor Statistics.

This news release is available at the following website:

http://stats.bls.gov/newsrels.htm

The October CPS includes a supplement to gather additional data on school enrollment. The data collected are on school enrollment of people 16 to 24 years of age in the civilian, noninstitutional population in the calendar week ended October 18, 1997.

School enrollment refers to enrollment

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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in a regular school or college that advances them toward a high school diploma or college degree. Schools included are public or private elementary schools, junior or senior schools, and colleges and universities. Students attending special schools, such as trade schools or business colleges are not included.

Full-time college enrollment requires 12 hours of classes or more. Less than 12 is *part-time* enrollment.

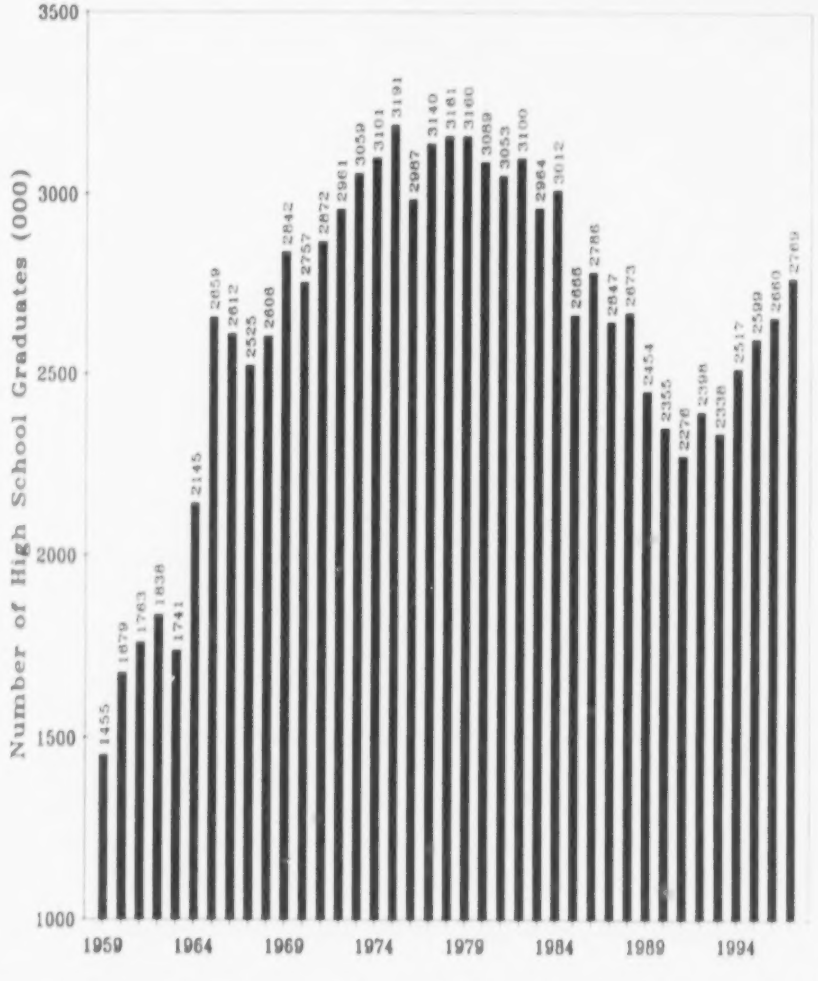
High School Graduates

During the 1996-97 school year there were 2,769,000 high school graduates. As shown in the chart on this page this number has fluctuated over time, from less than 1.5 million in 1959, to a peak of 3.2 million in 1975, to a trough of 2.3 million in 1991, rising to the current level of nearly 2.8 million.

These fluctuations are mainly the reflection of the numbers of live births that occurred 18 years earlier. The growth in the numbers of high school graduates through the late 1970s reflects the growth in the numbers of high school graduates following World War II. The growth since 1991 is the echo of this wave, which too will peak and decline.

Recent projections of high school graduates by the Western Interstate Commission for Higher Education (WICHE) indicate that the echo of the first wave peak will be reached in 2008 at 3.2 million, after which the numbers of high school graduates will again decline. But as the WICHE projections of high school graduates make clear, growth in the numbers of high school graduates will be far greater in some states than in others, and the racial/ethnic composition of the new students will be substantially different from the composition of past and current cohorts of high school graduates.

High School Graduates
1959 to 1997



Western Interstate Commission for Higher Education and The College Board. (February 1998.) *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1996-2012.* Boulder, CO. Copies available by calling (303) 541-0200.

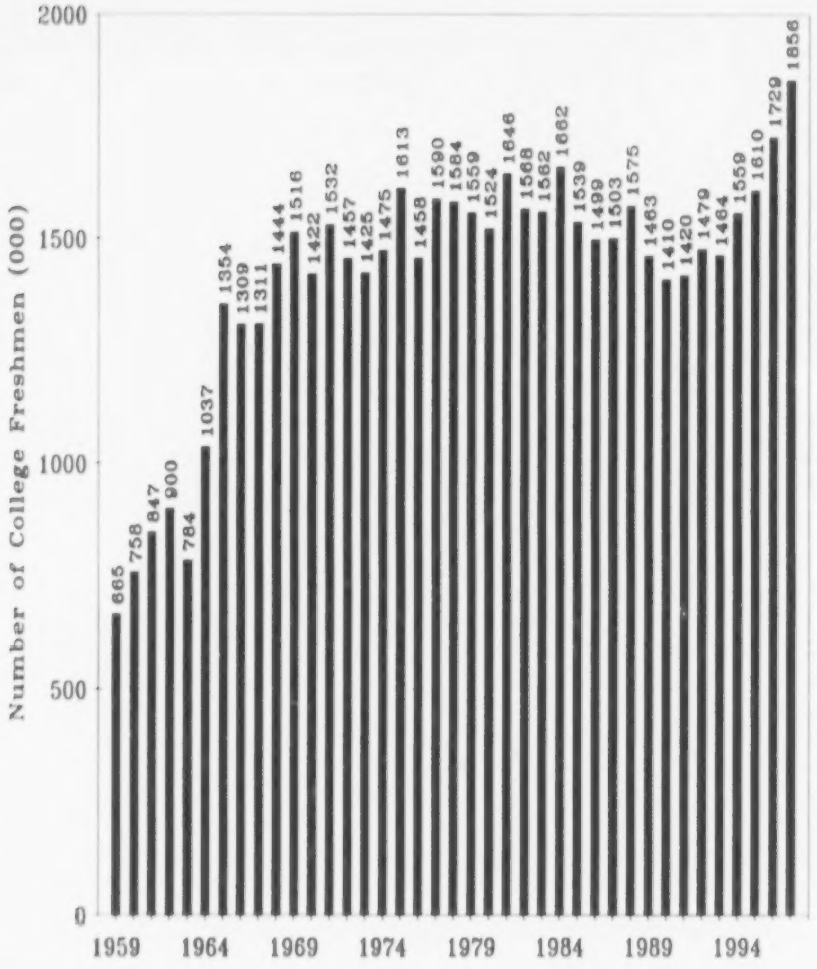
College Freshmen

In October of 1997 there were 1,856,000 college freshmen who had graduated from high school the previous year. This was the largest number ever, by far. This was an increase of 127,000 over 1996, or an increase 7.3 percent.

The 1996 number was 1,729,000, which also was the largest number of college freshmen direct from high school on record. This too was 119,000 over 1995, or an increase of 7.4 percent.

These numbers a several times larger than the numbers of college freshmen enrolling in the late 1950s and early

College Freshmen Who Were Recent High School Graduates
1959 to 1997



1960s, before the post-World War II baby boom began arriving at college age. Based on the projected increase in the numbers of high school graduates, these numbers are likely to increase substantially over the next decade. This growth too will occur unevenly across the states, with the race/ethnicity changing the color of the student population on college campuses.

Full-time/part-time status. Recent high school graduates are enrolled in college overwhelmingly on a full-time basis--for more than 12 hours of classes. Between 1959 and 1976, about 95 percent of these freshmen were enrolled full-time. Between 1977 and 1997 this proportion has hovered between about 90 and 92 percent. In 1997 90.5 percent of these freshmen were enrolled full-time.

Gender. Over the last four decades, the proportion of these college freshmen that are male has declined, from a peak of 55 percent in 1964 to a low of 45.1 percent by 1996. In 1997 46.3 percent of the freshmen were male.

This decline has, of course, been offset by the growing proportion of these college freshmen who are female, from 45 percent in 1964 to 54.9 percent by 1996. In 1997 53.6 percent were female.

Two-year/four-year colleges. These data have only been reported since 1991. Between 1991 and 1997 a steadily declining share of recent high school graduates are choosing to enroll in two-year colleges. In 1991 39.9 percent of these freshmen chose two year colleges, and by 1997 this had dropped to 33.9 percent. Complementing this shift, the proportion of these freshmen entering four-year colleges and universities has increased from 60.1 to 66.0 percent.

Race/ethnicity. At least some data on race and ethnicity has been reported since the 1972 survey. The proportion of college freshmen who are white has declined from a peak of 91.4 percent in 1973 to a low of 79.6 percent by 1996. In 1997 81 percent of all freshmen were reported as white.

All other racial/ethnic groups have increased since these data were first reported in 1976. Blacks have grown from 9.2 to 12.7 percent of these freshmen between 1976 and 1997. Hispanics have grown from 5.5 to 11.9 percent, and freshmen of other race (mainly Asian) have grown from 2.3 to 6.3 percent of the total freshmen class.

College Continuation Rates

The transition from high school to college is fundamentally voluntary, an act of choice. It is also a decision that for the first time in most students' careers is one weighted by significant cost considerations. To measure this transition in ways that control for changes and differences in the sizes of cohorts we calculate college continuation rates. These rates are the proportions of a given cohort of high

of high school graduates that enrolled in college the following fall.

In 1997 67.0 percent of those that graduated from high school in 1996-97 were enrolled in college by October of 1997. As shown in the chart on the first page of this issue of **OPPORTUNITY**, this was the highest rate on record. It surpassed the previous record of 65 percent set in 1996.

With the exception of the pause in the growth of the college continuation rate that occurred between 1991 and 1995, the proportion of high school graduates continuing their educations in college has increased almost steadily and very substantially from 1973 through 1997.

Since implementation of the Pell Grant program in the fall of 1973, the proportion of recent high school graduates enrolled in college has increased by 20.4 percentage points. This increase in *rate* means that there are about 566,000 more college freshmen in 1997 than there would have been at the 1973 college continuation rate.

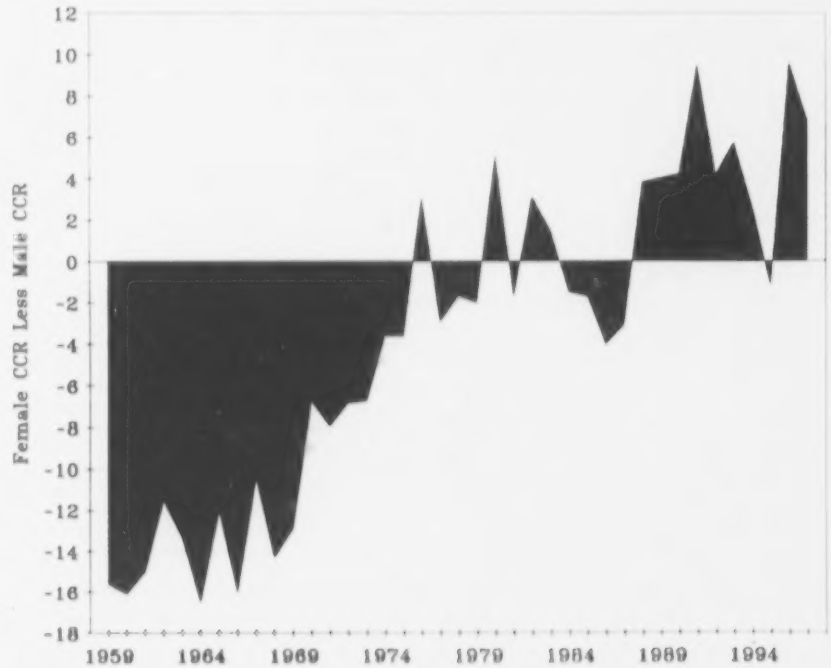
Gender. The rates at which both male and female recent high school graduates continued their educations in college in 1997 were both records.

For males, the college continuation rate was 63.5 percent in 1997, up from 60.1 percent in 1996. The 1997 rate finally broke the previous record rate of 63.2 percent set in 1968 during the Vietnam War. After 1968 the CCR for males drifted downward, to a low of 46.7 percent in 1980. Since 1980 it has climbed steadily to its 1997 record level.

For females, the nearly 40 years of reported data show a nearly unbroken string of year-to-year gains in the college continuation rate. Between 1960 and 1997 the rate has nearly

College Continuation Rates by Gender
for Recent High School Graduates
1959 to 1997

Difference Between College Continuation Rates by Gender
for Recent High School Graduates
1959 to 1997



doubled, from 37.9 percent in 1960 to the record high of 70.3 percent by 1997. These gains have not only erased the disparity between male and female college continuation rates that existed between the late 1950s and the mid 1970s, but since the late 1980s the CCR for females has generally well surpassed the rate for males. We keep asking: what's wrong with the guys?

Whites and Blacks. The charts on this page show the rate at which white and black recent high school graduates have enrolled in college for the years 1960 through 1997. The college continuation rate data for blacks is plotted as "o" as well as a line which smooths the wide annual fluctuations that naturally occur due to sampling error. The line better illustrates the underlying trend to the data for blacks.

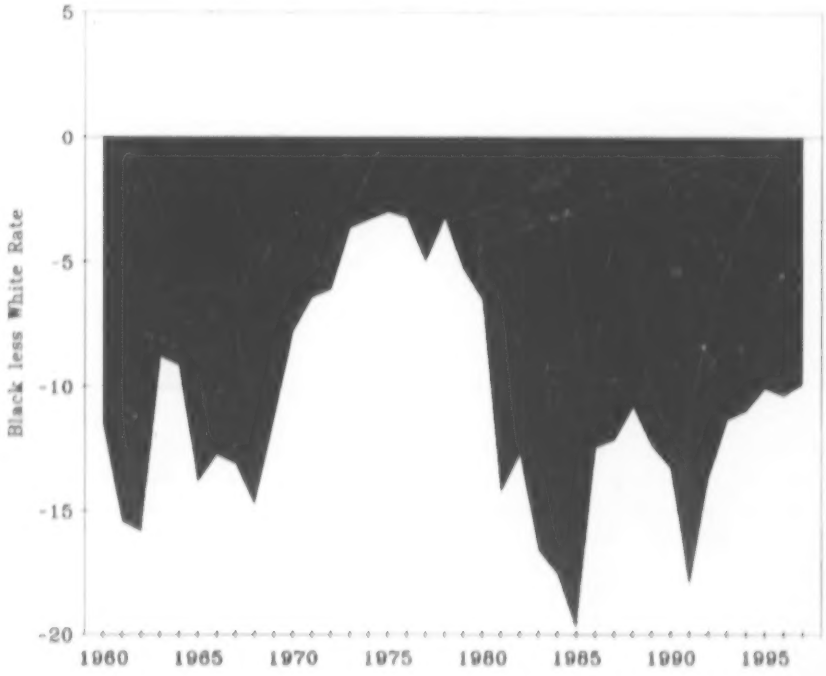
For both whites and blacks, the college continuation rates have tended strongly upward over the last four decades. However, they have taken slightly different paths. For whites the CCR increased between 1960 and 1968, then declined through 1974, and has grown steadily and substantially through 1997. Between 1960 and 1997 the CCR for whites grew from 45.8 to 67.5 percent, and increase of 21.7 percentage points. The 1997 CCR for whites was the highest on record.

For blacks strong growth is also evident, from 36 percent in 1960 to 59.6 percent in 1997. This is an increase of 23.6 percentage points, or roughly similar to that for whites. However, the growth patterns differ. For blacks the gains occurred from 1960 through bout 1975, then declined through about 1983, and have grown steadily and substantially since then.

During the 1970s, public policy was briefly concerned with reducing the wide disparity in the college continuation rates between blacks and whites. In the 1960s the CCR for

College Continuation Rates for White and Black Recent High School Graduates 1960 to 1997

Difference Between Black and White College Continuation Rates 1960 to 1997



blacks fell an average of 12.6 percent below that of whites. But between 1970 and 1980, this disparity was reduced to an average of 4.9 percent. Then, for the next 12 years under Presidents Reagan and Bush, the gap averaged 14.5 percent. During the last five years under President Clinton the disparity has averaged 10.5 percent.

Whites and Hispanics. Whites define a race, and Hispanics may be of any race, although most are white. This confuses the interpretation of data and differences between whites and Hispanics, but not impossibly.

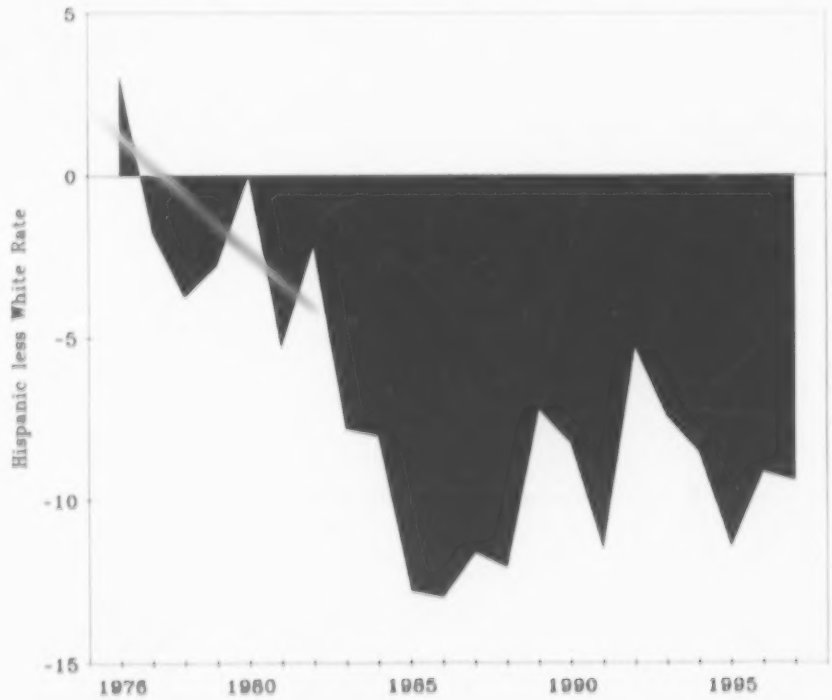
Data have been reported on Hispanics since 1976. This data fluctuates wildly from year to year, and thus--as we did for blacks--we have plotted a curve-smoothing three-year average line through the raw data points. The purpose of this is to clarify the important underlying trends in these data.

Between 1976 and 1997, the college continuation rate for whites has increased almost steadily and quite substantially, from 48.9 to 67.5 percent. This is an increase of 18.6 percentage points. During this same period of time, the CCR for Hispanics first declined from about 52 to 43 percent by 1986, and has since increased to about 58 percent by 1997--an overall increase of just 6 percentage points.

Thus, between 1976 and 1997, Hispanic high school graduates have moved from a position *above* the CCR for whites in 1976, to well *below* the CCR for whites by 1997. Nearly all of this falling behind whites occurred between 1976 and 1986. By 1986 the CCR for Hispanics was about 13 percent below the rate for whites. Between 1986 and 1997 Hispanics have regained some of the ground lost earlier. By the mid 1990s the Hispanic rate was about 10 percent

College Continuation Rates
for White and Hispanic Recent High School Graduates
1976 to 1997

Difference Between Hispanic and White
College Continuation Rates, 1976 to 1997



below the rate for whites.

Whites and Asians. By subtracting whites and blacks from the total, the published data yields a residual. These are people of "other race," who are mainly Asians but also include very much smaller numbers of American Indians. This is a particularly interesting group to study because their enrollment behaviors typically surpass those of whites and their numbers are growing rapidly.

Here too we have plotted a smoothed curve through the data points to reveal the more important underlying trend. In 1997 the college continuation rate for this group was about 80 percent, compared to 67.5 percent for whites. The 1997 CCR for this group was the highest on record. It reflects substantial growth, from about 67 percent in 1977 to 80 percent by 1997--an increase of 13 percentage points. During this time the CCR for whites increased by about 16 percent.

Through the two decades of available data, the college continuation rate for this mainly Asian group of recent high school graduates has always surpassed the rate for whites.

College Continuation Rates for White and Other Race (mainly Asian) Recent High School Graduates 1977 to 1997

Difference Between Other Race (mainly Asian) and White College Continuation Rates, 1976 to 1997

Summary

By nearly every measure, the high school graduates of 1997 broke records continuing their educations directly into college by the fall of 1997.

- The number of recent high school graduates enrolled in college was the highest ever.
- The rate at which recent high school graduates enrolled in college was the highest ever.
- Record college continuation rates were set for males, females, whites, blacks, Hispanics and possibly for Asians.

For the two out of three high school graduates that continued their educations, life prospects look good.

Recent High School Dropouts

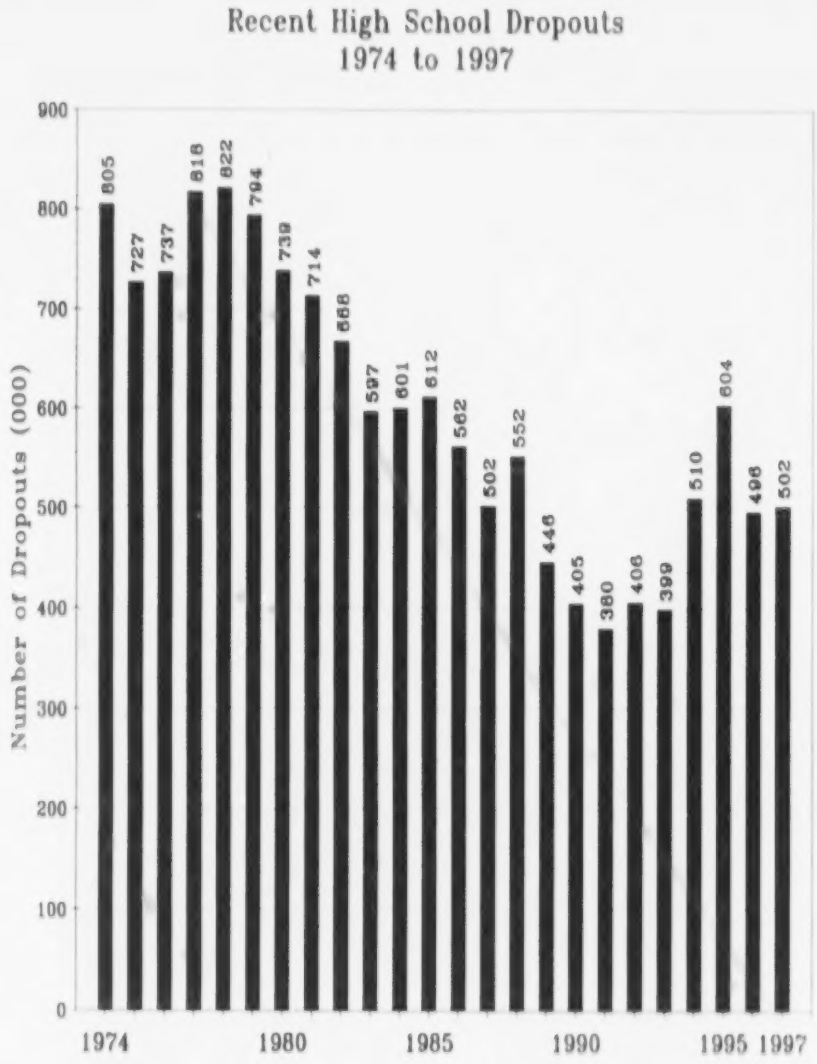
Over the last ten years, between 400,000 and 600,000 students have dropped out of high schools in the United States each year. They leave high school without graduating, without their high school diploma.

This number was in steady and substantial decline from over 800,000 per year in the late 1970s, to a low of about 400,000 per year between 1990 and 1993, but has risen to about 500,000 per year for 1996 and 1997. This is about 15 percent of the annual output from high schools in the United States.

These young people are by nearly all measures in serious trouble, or are headed for it. They begin their adult lives unequipped for basic survival. They lack the basic minimum educational credential for employment. They enter an economy (we do not think of the U.S. as a society any longer, just a business) no longer willing to support those who are unwilling or unable to support themselves.

As long as these dropouts fail to complete their high school educations, their very best efforts at living will likely only garner what is left over after everyone else has picked over the best jobs, housing, food, health care and other rewards that the American economy has to offer.

Given the national goal of a 90 percent high school graduation rate by the year 2000, a 15 percent dropout rate leaves us well short of our national goal. Moreover, since 1990, the graduation rate--at best--has made no progress towards this goal. At worst, the national dropout rate appears to have begun rising again (see **OPPORTUNITY** #59 for May 1997 for further analysis of changing trends in high school attrition).

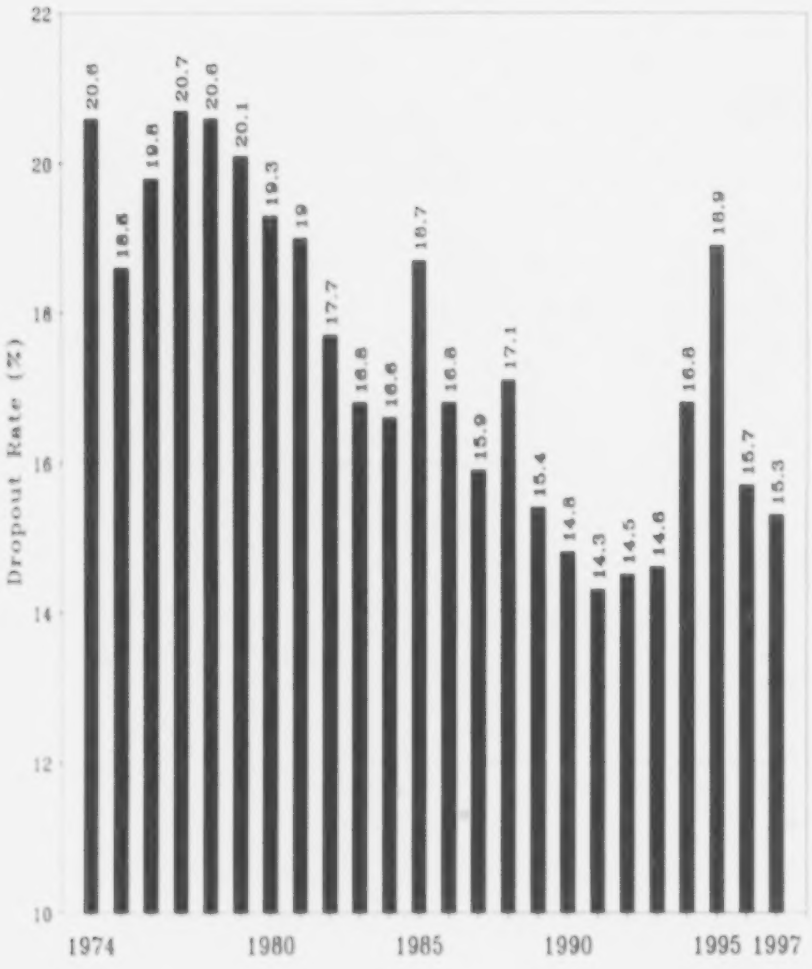


In this brief analysis, we examine the basic demographic dimensions of the recent high school dropout population--both the trends and the patterns. Data are available for the years between 1974 and 1997. They are disaggregated by gender and race/ethnicity. We report these data as both rates and numbers.

The Data

Recent high school dropouts are those who were not enrolled in school in October, but who had been enrolled in high school in October a year earlier, and who had not graduated from high school.

Recent High School Dropout Rate 1974 to 1997



Data used in this analysis are collected each October by the Census Bureau in the Current Population Survey (CPS). The CPS is a monthly, national survey of about 50,000 households. Its primary purpose is to collect national information on employment and unemployment. The basic monthly survey is supplemented with questions on education in October of each year.

The data used in the analysis is published by the Bureau of Labor Statistics. This is the first release of October CPS data and thus provides a useful early insight into school enrollment and labor force participation--or lack thereof. These data are later reported in more detail by the Census Bureau in its P-20 Current Population Reports series on school enrollments.

Dropouts

High school dropouts are defined as persons who had been enrolled in high school in October 1996 but had left before obtaining their diplomas at the time they were surveyed in October of 1997.

In the October 1997 CPS, 502,000 persons were reported as high school dropouts. Of this total, 289,000 (or 58 percent) were males, and 213,000 (or 42 percent) were females. By race/ethnicity, 386,000 (or 77 percent) were white, 90,000 (or 18 percent) were black and 26,000 (or 5 percent) were of other race (mainly Asians). Hispanic high school dropouts (who may be of any race) totaled 121,000, or 24 percent of the total.

Dropout Rates

Because of differences in the sizes of cohorts of students from which high school attrition occurs, more comparable interpretations of dropouts are derived from rates or percentages. We calculate these rates as the number of dropouts divided by the sum of the number of dropouts plus the number of graduates from high school. These dropout rates are calculated over time (usually the last 24 years) and across gender and racial ethnic groups.

As shown in the chart on this page, the rate at which students dropped out of high school declined substantially between the late 1970s--when it was close to 21 percent--and the early 1990s, when for four years it remained between 14 and 15 percent. This decline in the dropout rate had converted about 164,000 high school students from dropouts to graduates in 1993.

However, since 1993 the dropout rate has begun to edge back upward again, to about 15.5 percent for 1996 and 1997. This increase in the high school dropout rate has converted about 36,000 potential high school graduates to dropouts in 1997.

Gender. Over the last 24 years the high school dropout rate for males has nearly always been greater than has been the rate for females. In 1997 the high school dropout rate was 17.6 percent for males, and 13.1 percent

for females.

Only in 1991, 1992 and 1996 did the rate for males drop--slightly--below the rate for females. This means that over the last 24 years the high school dropout rate for males has declined more for males than it has for females, although progress made between 1974 and the early 1990s may have since reversed.

Race/ethnicity. High school dropout rates vary widely across racial and ethnic groups.

Whites. Since 1974 whites have consistently had the lowest high school dropout rate. In 1997 it stood at 14.8 percent--there were 2,228,000 graduates and 386,000 dropouts. From the late 1970s until 1991 the white dropout rate steadily declined, from 19.2 percent in 1977 to 12.8 percent in 1991. However, since 1991 the dropout rate has reversed and has been growing and in 1997 stands about 2 percent above the 1991 low point.

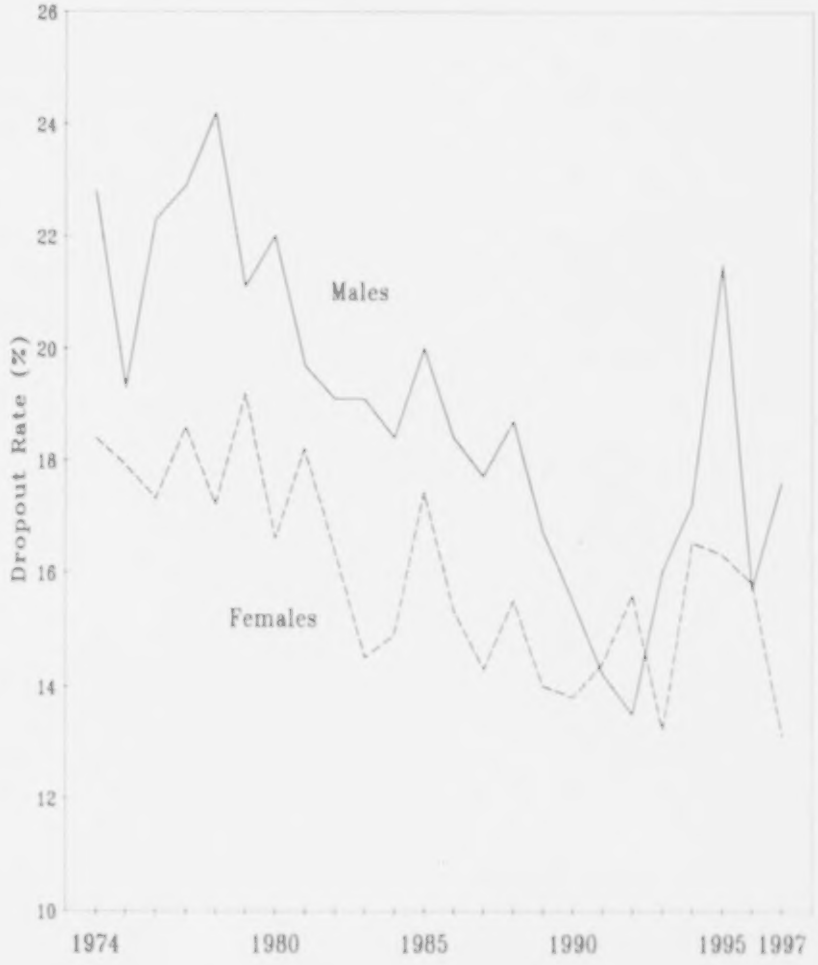
Blacks. In 1997 the high school dropout rate for blacks stood at 18.6 percent, or 3.8 percentage points above the rate for whites. However, since 1974 the black rate has declined by far more than the white rate. In 1974 the rate was 33.5 percent, and thus has declined by 14.9 percent over the last 24 years.

Hispanics. The Hispanic population has the highest dropout rate among high school students. In 1997 it stood at 26.5 percent, down from the 1976 rate of 38.7 percent.

While all three groups have shown a long term decline in high school dropout rates, all three groups also show small reversals in the 1990s. The dropout rates for each groups appear to have bottomed earlier in the 1990s and to have since increased.

Asians. Those of other race are mainly Asian, and have become more so in the 1980s and 1990s. The very small numbers, however, make understanding trends and patterns difficult. Generally, high school dropout rate data appear to be similar to the rates for whites between 1976 and 1997.

Recent High School Dropout Rates by Gender
1974 to 1997



What Are Dropouts Doing?

One of the mysteries of high school attrition is what do dropouts do? These data offer few insights. The Current Population Survey is limited to the civilian, noninstitutional population of the United States. Thus, those who enter the military are not counted, but could not enter the military anyway since high school dropouts are no longer admissible. Nor are those who are incarcerated (jail or prison) because the CPS excludes institutional populations.

Some dropouts enter the labor force, although they have trouble finding employment. Of the 502,000 dropouts in October of 1997, 302,000 were in the labor force, although only 225,000 of these were employed. This was about 45 percent of the population.

Those who found employment had earnings far below those of high school graduates, with no real prospects for ever closing the gap.

That leaves 277,000 not in school or college, nor in the military, nor behind bars, nor employed. Of this total, 124,000 were males and 153,000 were female; 187,000 were whites, 72,000 were blacks and 18,000 were of other race (Asians). Also, 48,000 were Hispanics, who may be of any race.

Between 1981 and 1986 the Bureau of Labor Statistics reported on the marital status of female high school dropouts. In 1986 about 75 percent of these women were single, and between 1981 and 1986 this fluctuated between 72 and 79 percent without any clear trend to the data. This suggests that about a quarter of the women who had dropped out of high school had spousal support.

Beyond this fragmentary information, there is nothing in these data that offers insight about the status of the remaining 239,000 dropouts. They are not in school or college, nor employed, nor married, nor in the miliary nor behind bars.

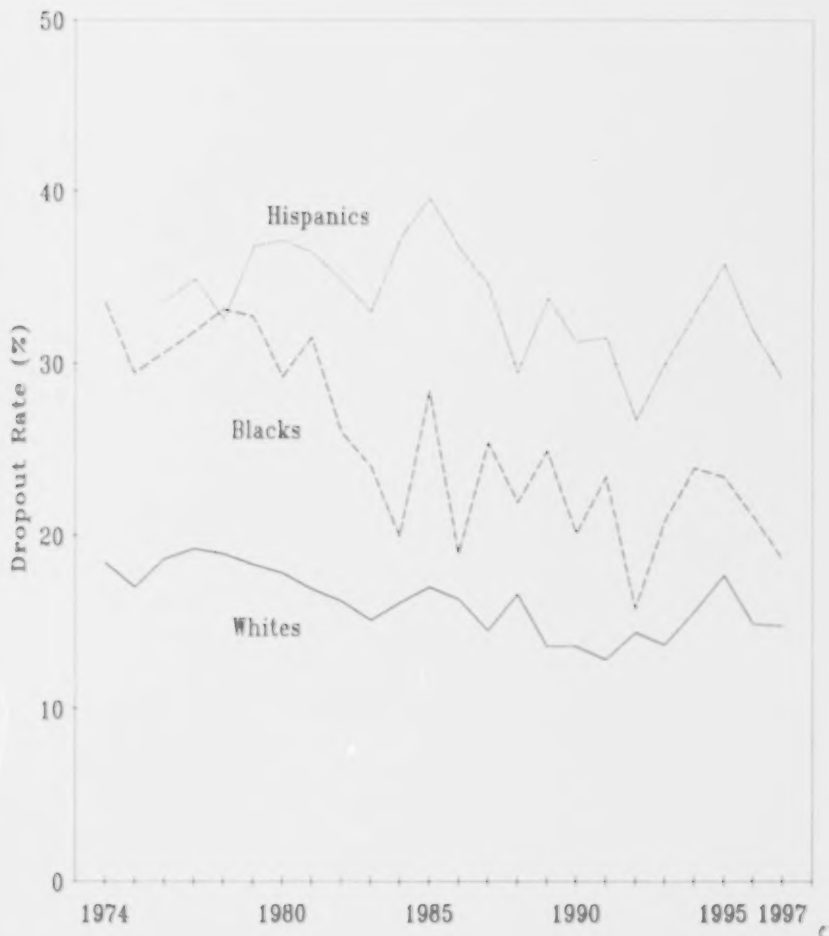
While the lives of these dropouts appear to be in limbo, their future is reasonably clear. They face the very lowest of wages, frequent and prolonged unemployment, few (if any) fringe benefits like health insurance or paid vacations, poor food and occasional real hunger, poor (if any) housing, dangerous neighborhoods, underfunded schools for their children, and an increasingly hopeless and brutal world.

This picture has been deteriorating since 1973. In 1973 male high school dropouts age 25 years and over had incomes that were about 81 percent of those of high school graduates. By 1980 this had dropped to 76 percent, by 1990 to 72 percent and by 1996 to 70 percent. Because male high school graduate incomes are declining in real terms, the incomes of male high school dropouts are declining even faster. In constant dollars, average annual incomes of male high school dropouts have declined from $30,333 in 1973 to $20,464 by 1996 according to the Census Bureau.

For women high school dropouts it is even worse. The average annual income of female high school dropouts was about 77 percent of the income of a female high school graduate in 1973. It had dropped to 75 percent by 1980, to 70 percent by 1990 and to less than 69 percent by 1996. In constant dollars, the average annual income of female high school dropouts was just $11,445 in 1973. By 1996 it had dropped further to $10,881.

The consequences for individuals who do not assume economically productive and self-supportive roles are growing more brutal by the year. Welfare is now limited to two years and those who do not live within the law face ever harsher sanctions. Dropping out of high school is a real dumb choice.

Recent High School Dropout Rates
for Whites, Blacks and Hispanics
1974 to 1997



Labor Force Participation of Recent High School Leavers

During high school many students start working. At age 15 about 9 percent of high school students are employed. By age 16 this rises to 30 percent, and by age 17 35 percent of high school students report employment, about 7 percent full-time. (See **OPPORTUNITY** #32, February 1995, for more detailed analyses of employment by students.)

Here we examine the labor force participation behaviors of those who have left high school during the previous 12 months. High school leavers include both graduates and dropouts, and graduates include both those who entered college immediately after high school as well as those who have graduated but not continued their educations, at least immediately. Thus we follow three groups.

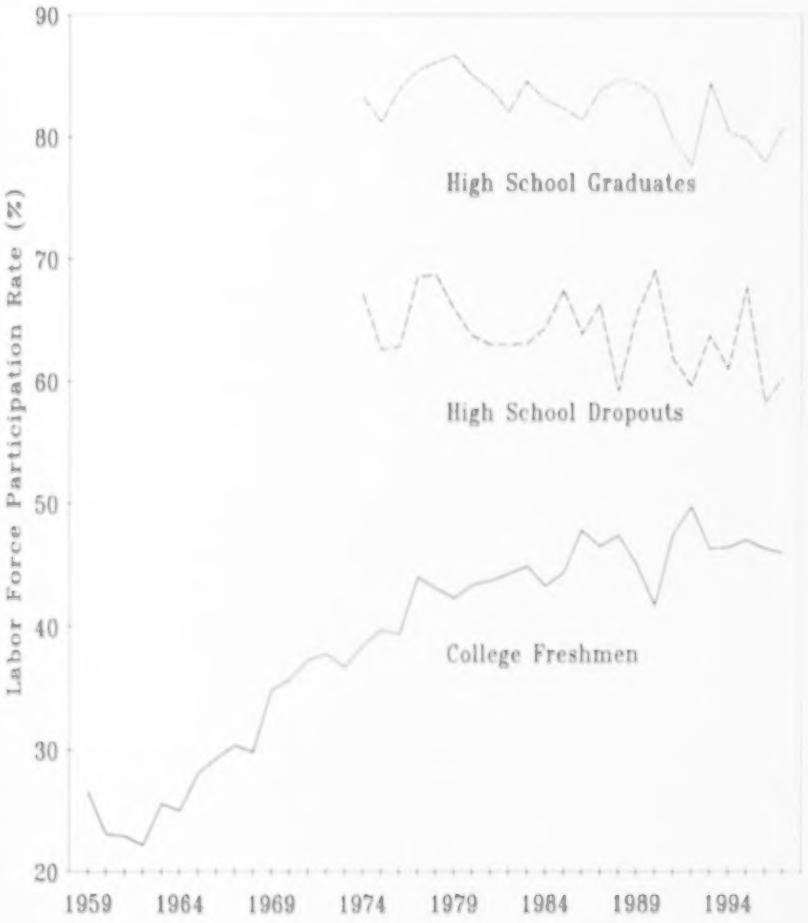
What these data reveal are substantial rates of labor force participation by the fall following high school.

- About 80 percent of high school graduates not enrolled in college are in the labor force.
- About 60 percent of high school dropouts are in the labor force, although less successfully so.
- Just under 50 percent of those who enrolled in college (90 percent on a full-time basis) are also in the labor force.

Labor force participation has two meanings: employed, or seeking employment (unemployed). A person neither employed nor unemployed is not considered to be in the labor force.

Different demographic groups of recent high school leavers participate in the labor force at different rates. Moreover, these participation behaviors change over time, particularly during different phases of the business cycle. Our purpose here is to document these trends and patterns of labor force participation over time for the standard demographic classifications of the population, namely gender and race/ethnicity.

Labor Force Participation
of Recent High School Leavers
1959 to 1997



The Data

Data examined and reported here come from the same source as the one used for the two previous analyses in this issue of **OPPORTUNITY**. The annual Bureau of Labor Statistics report titled "College Enrollment and Work Activity of 1997 High School Graduates" is based on the October Current Population Survey. The CPS is administered by the Census Bureau to gather data on employment and unemployment. We use it for that purpose here too to compare the stories of labor force participation for

three groups of high school leavers.

Labor Force Participation

In October of 1997, out of 3,271,000 people who had been enrolled in high school a year earlier, 1,893,000 were in the labor force (employed or seeking employment). This is a labor force participation rate of 57.9 percent.

The labor force participation rate of recent high school leavers has been generally declining over the last two decades. Between 1977 and 1979 it was above 65 percent. For 1996 and 1997 it has been below 58 percent.

As shown in the chart on page 13, labor force participation rates have been declining only for high school dropouts and graduates who have not continued their educations in college in the fall following graduation. Among dropouts the participation rate has declined from about 68 percent in the late 1970s to about 60 percent in the last two years. Among high school graduates only, the rate has declined from about 86 percent in the late 1970s to about 80 percent for the last several years.

In contrast, the labor force participation of college freshmen who are recent high school graduates has been increasing. In the early 1960s, it was about 22 percent. In 1997 it stands at about 46 percent.

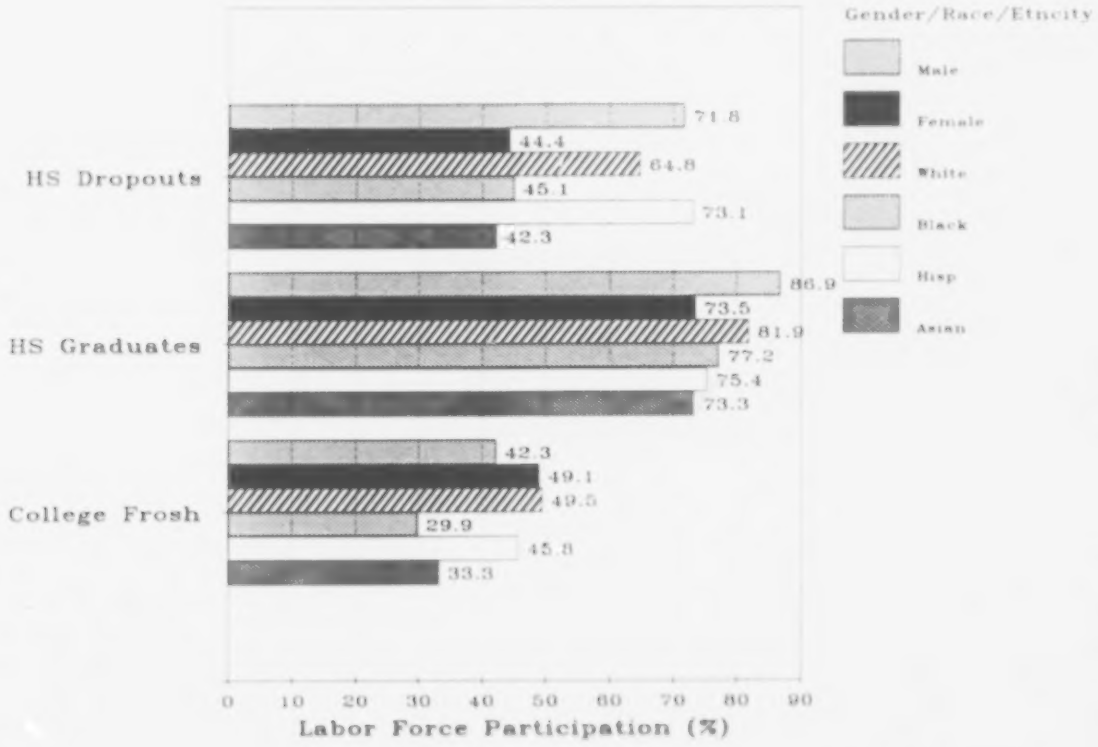
Gender. Among high school dropouts and graduates only, labor force participation rates are consistently higher for males than for females. Among high school dropouts, the rates are 72 percent for males compared to 44 percent for females. Among high school graduates only the difference narrows: 87 percent for males compared to 74 percent for females.

But the situation reverses among college freshmen: it is 42 percent for males and 49 percent for females.

Race and ethnicity. Among high school dropouts, labor force participation rates were considerably higher among whites (65 percent) and Hispanics (73 percent) than they were among blacks (45 percent) and Asians (42.3 percent).

Most of these differences disappear among high school graduates who do not enter college. Here, labor force participation rates are consistently much higher than they are for either high school dropouts or college freshmen.

Labor Force Participation of Recent High School Leavers by Gender and Race/Ethnicity, 1997



Labor force participation rates are consistently lowest among college freshmen (90 percent of whom are enrolled full-time). Similar to the patterns for high school dropouts, labor force participation rates are highest for whites and Hispanics, and lowest for blacks and Asians.

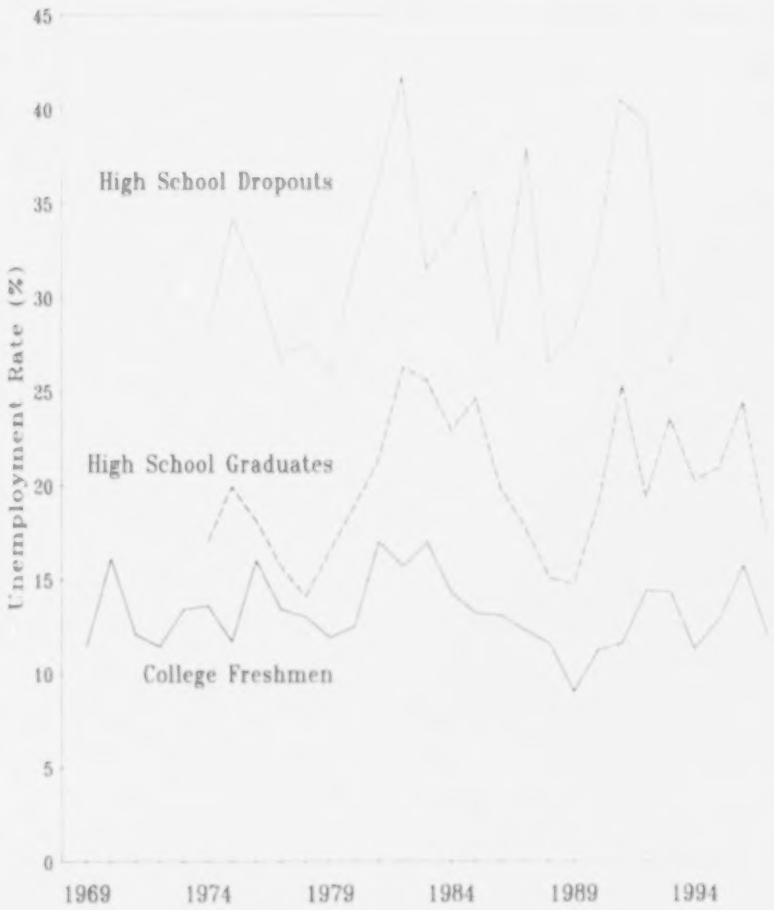
Unemployment Rates

As an important part of the issue of labor force participation is the success recent high school leavers have gaining employment. This is measured, in reverse fashion, through unemployment rates.

As the chart to the right shows, unemployment rates are highest for high school dropouts (historically in the 25 to 40 percent range), considerably lower for high school graduates only (between 15 and 25 percent), and lowest among recent high school graduates who have entered college (between 10 and 15 percent).

For each group, unemployment rates have increased during the recession phase of the business cycle, and decreased during expansion phases. The unemployment rate spikes of the early 1980s and early 1990s correspond to these recessionary phases of the cycle.

Unemployment Rates
of Recent High School Leavers
1969 to 1997

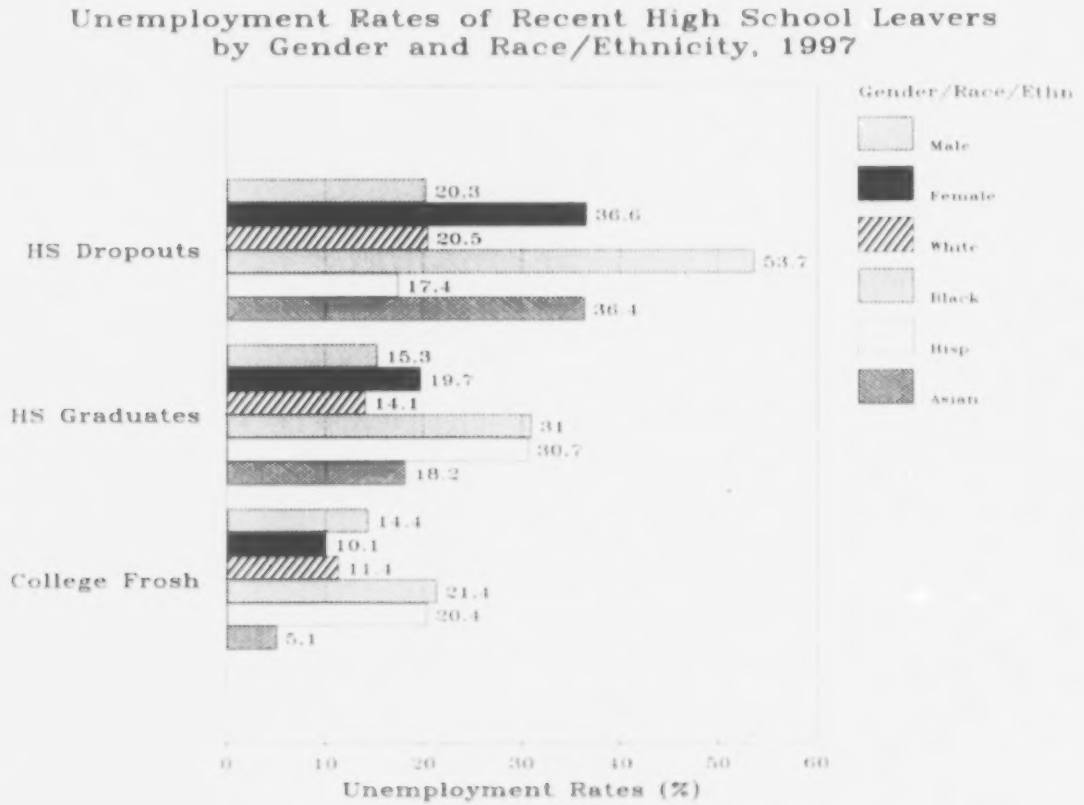


However, the unemployment rate spikes are greatest among high school dropouts, and least among college freshmen. This was true in both the early 1980s and again in the early 1990s. Clearly those with the least formal education have the greatest difficulties keeping their jobs when the economy contracts, and those with the most education are least affected.

Gender. Among both recent high school dropouts and graduates only, unemployment rates are higher for females than they are for males. This pattern reverses, however, among college freshmen: unemployment rates are somewhat greater for males than females.

Race and ethnicity. As shown in the chart on the following page, differences in unemployment rates across racial/ethnic groups are greatest among high school dropouts and least among college freshmen. Among high school dropouts, the range in unemployment rates is from 17 percent among Hispanics to nearly 54 percent among blacks. In all cases, blacks had the highest unemployment rates. Whites, blacks and Hispanics shared the lowest ranking depending on status.

These data are an early warning to students that do not complete high school, and for high school graduates that do not continue their educations by enrolling in college. The alternative to college is work, and jobs are more difficult to come by without college-level education. This becomes even more pressing during economic recession as the least educated are more likely to become unemployed. Its a tough world out there without a college education, and getting tougher.



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Who Gets It . . . *. . . and Who Doesn't*

Educational Attainment for 25 to 29 Year Olds 1940 to 1997

Educational attainment is the primary determinant of income, and income largely defines American living standards. This applies to persons, families, communities, states and the country. These relationships have held throughout our recorded history.

However, since about 1973, the relationship between education and income has entered a new era. Since 1973, the real incomes of those with high school educations or less have declined in inflation-adjusted terms, from a low to a still lower level. At the same time the real incomes of persons with college educations have increased from a higher to a still higher level. The educational attainment requirements of jobs in this new-era economy are greater than they have been historically. Only those with the education or training to make their labors most productive have qualified for the best paying jobs available in the labor force.

In this analysis we examine recently released data on the educational attainment of young adults, those between the ages of 25 and 29 years. The two dimensions of this analysis are trends over time and comparisons between major demographic groups. These data are collected by the Census Bureau in the Current Population Survey. Data are available for nearly 60 years and as such offer insights into who has and is getting the education needed to qualify for the best jobs available in the prospering American economy.

Percent of Persons 25 to 29 Years Who Have Completed High School or More and 4 Years of College or More 1940 to 1997

The findings from this analysis indicate a plateauing of historic gains made in educational attainment of young adults. For more than 20 years

the proportion of the American population with a high school education or more and with a bachelor's degree or more has remained largely flat. The large real gains occurred between 1940 and the mid 1970s.

Since then some groups have made more progress than have others.

- Women continue to make extraordinary progress on all fronts, while males show relatively faint signs of life.
- Whites and blacks have shown more progress than have Hispanics during the last 3 years.

These data also show some gains, particularly in bachelor's degree attainment, since 1994.

These data say much, and omit even more. These data tell us some things about who is making it through the education system, and who is not. The broad demographic classifications of gender and race/ethnicity are well described. But the public policy interests of low income and first-generation are not addressed here. Moreover, these data do not offer insight into key attainment factors such as college choice and completion by these policy-relevant demographic dimensions.

Nevertheless, in ways that we commonly view human progress, the Census Bureau data provide important reference points to measure educational attainment among young Americans moving into their adult roles.

The Data

Data used here are collected each March in the Current Population Survey (CPS). This Survey is administered monthly by the federal Census Bureau, and is used primarily to gather data on employment and unemployment in the labor force. In March additional questions gather data on educational attainment.

Prior to 1992 educational attainment was measured in terms of years of school completed. Beginning in 1992 educational attainment is measured by highest degree completed. We have spliced these data sets with the following assumed relationships: 1) four years of high school equals a high school diploma, and 2) four years of college equals a bachelor's degree.

High School Graduation

The proportion of the population 25 to 29 years old with a high school diploma or its equivalent (GED) stood at 38.1 percent in 1940. Then, through the mid 1970s, it increased sharply, to 51 percent by 1947, 69 percent by 1964, and 85.4 percent by 1977.

Over the last twenty years, however, the proportion of high school graduates among 25 to 29 year olds has increased a total of 2 percent, from 85.4 to 87.4 percent. This lack of further progress is somewhat puzzling, both because the labor market has assigned steadily and greatly diminished economic value to the labors of persons without high school diplomas, and because President Bush and the nation's governors adopted in 1990 a national goal of a 90 percent high school graduation rate by the year 2000.

When the data on high school graduation rates are disaggregated along major demographic dimensions of gender and race/ethnicity, the sticking points become clearer.

Gender. High school graduation rates for males and females have tended to parallel each other over the last six decades. Between 1940 and 1960 the rate for females was somewhat above the rate for females. From the mid 1960s through the mid 1970s--during

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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the Vietnam War--the high school graduation rate for males exceeded that for females. Then, since the early 1980s, the rate for females has again exceeded the rate for males. In the 1990s this gap appears to be widening. Between 1977 and 1997, the high school graduation rate for males 25 to 29 years old *declined* by 0.8 percent. During this same 20 year interval, the rate for females *increased* by 9.7 percent.

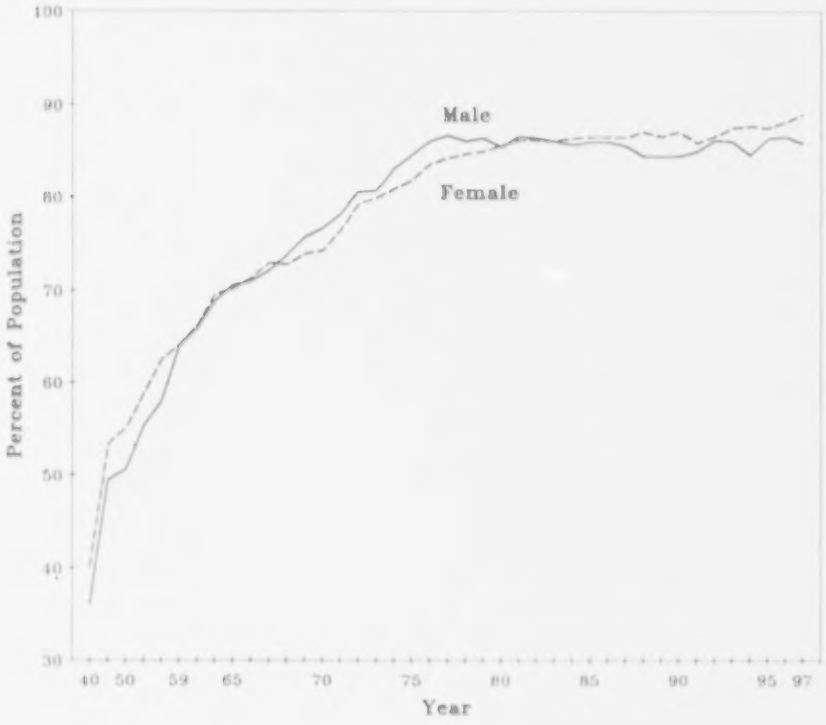
This pattern is part of a broader set of gender-differentiating issues. Test scores, high school courses, college continuation and college completion trends are increasingly different between males and females. Females are making steady and substantial progress in educational attainment and in all of the preparatory steps toward that end. Young males are not. As a direct consequence, males are falling behind females in a world that holds little long-term success for those who are not educationally prepared for life's opportunities.

Race/ethnicity. Historically, high school graduation rates have varied widely across racial/ethnic groups of the population. They have been highest among Asians, and lowest among Hispanics, especially Mexican Americans.

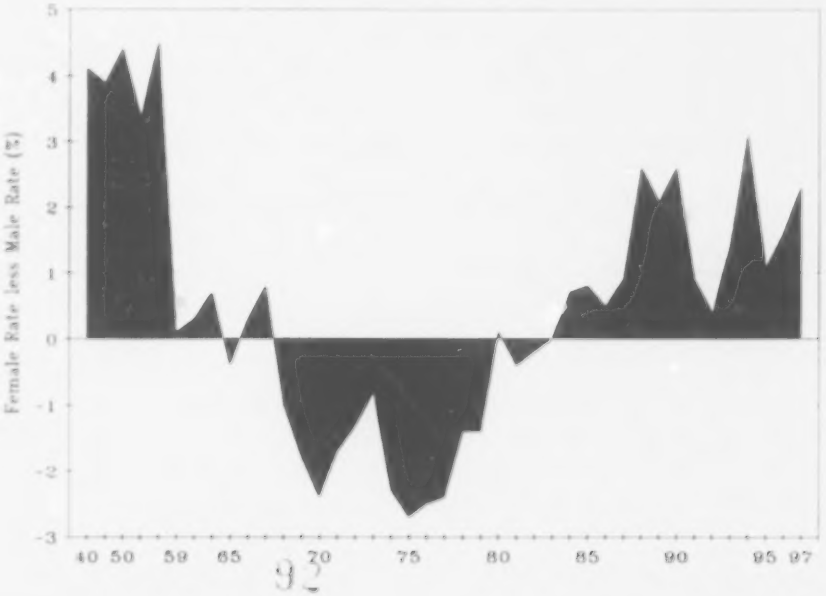
In 1997 87.6 percent of all whites between 25 and 29 years were high school graduates. The rate for whites has increased from 41.2 percent in 1940, to 72.8 percent by 1965, to about 87 percent in the late 1970s. Since 1977 this rate has fluctuated within a narrow range of 85.8 percent in 1991 to 87.6 percent in 1981 and 1997.

In 1997 86.2 percent of all blacks between 25 and 29 years were high school graduates. This has increased from just 12.3 percent in 1940, to 23.6 percent in 1950, 50.3 percent by 1965, to 76.6 percent by 1980, to a

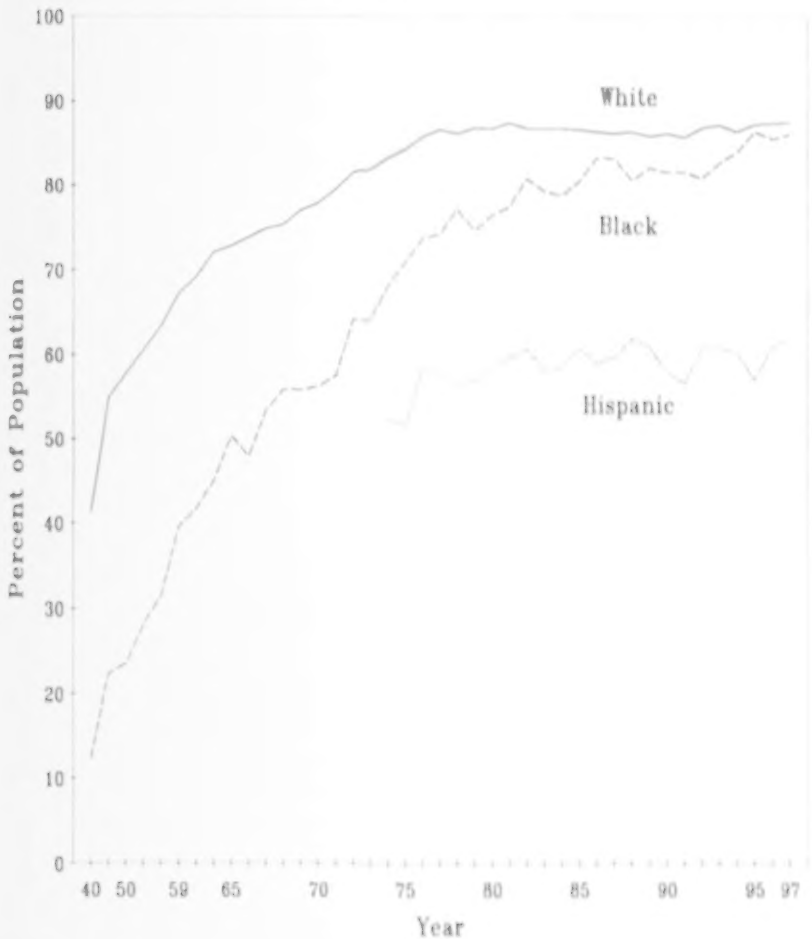
Percent of Persons 25 to 29 Years Who Have Completed High School or More by Gender
Selected Years: 1940 to 1997



Difference Between Males and Females in the Percent of 25 to 29 Year Olds Who Have Completed High School
Selected Years: 1940 to 1997



Percent of Persons 25 to 29 Years Who Have Completed High School or More by Race/Ethnicity Selected Years: 1940 to 1997



peak of 86.5 percent by 1995. Between 1995 and 1997 it has remained close to 86 percent, and in 1997 was 1.4 percent below the rate for whites. The very wide gap between whites and blacks on high school graduation rates by 25 to 29 that existed in the past is now very nearly closed.

A quite different story exists for Hispanics. Among 25 to 29 year olds, in 1997 61.8 percent were high school graduates. This is 25.8 percentage points below the rate for whites, and 24.4 percentage points below the rate for blacks.

Moreover, and unlike blacks, this proportion has not changed appreciably over the last twenty years. In a labor market that values educational attainment, nearly 4 out of 10 young Hispanics lack even a high school diploma. If they can find employment at all, it will be at the lowest wages and under the worst working conditions. Too many Hispanics remain distinguished from all other measurable population groups by their apparent indifference to the importance of the most basic levels of educational attainment required for well-paid jobs in the workforce.

College Graduation

A far smaller proportion of 25 to 29 year olds receive bachelor's degrees from college than graduate from high school. And disparities in bachelor's degree attainment across racial/ethnic groups are apparent here too. Nevertheless, more recent progress is apparent in these data than in the high school graduation rate data reported above.

Overall, the proportion of 25 to 29 year olds in the population with a bachelor's degree has increased, from 5.9 percent in 1940, to 16.4 percent by 1970, a peak of 24.0 percent in 1977, followed by a drop off to 21.3 percent in 1981.

In 1994 the proportion was 23.3 percent, then rose sharply to a record 27.8 percent in March of 1997. This sudden, sharp increase is for cohorts of high school graduates that were graduating from high school between 1986 and 1990, a period of steady growth in college continuation rates after high school but not otherwise remarkable.

Gender. Given that men are from Mars and women are from Venus, we might reasonably expect their bachelor's degree attainment patterns to differ, and we are not disappointed.

The proportion of females ages 25 to 29 years old with at least a bachelor's degree has shown steady, huge and continuing growth since 1940. This pattern of year-to-year record-setting gains is almost unbroken. In 1940 just 4.9 percent of all females between 25 and 29 had at least a bachelor's degree from college. As late as 1965 it was still just 9.5 percent. By 1976 it had reached 20.1 percent, by 1986 it was 21.9 percent and by 1997 it had reached 29.3 percent. The increases

since 1994 have been particularly striking, from 24.0 to 29.3 percent in just three years, which is the fastest rate of growth at any time in the last six decades.

For males the pattern is quite different, and unsettling. War, it seems, is necessary to get males through college. Immediately after World War II, the difference between male and female bachelor's degree attainment was tiny. But the GI Bill changed that.

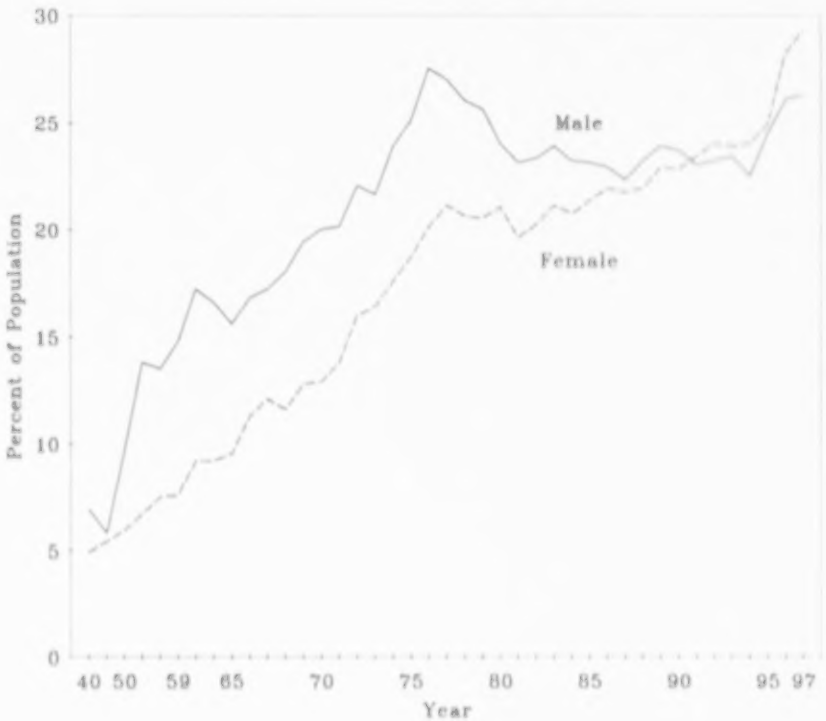
In 1940 6.9 percent of young males had bachelor's degrees. This rose to 9.6 percent by 1950, then 14.8 percent by 1959, 20 percent by 1970, to a record peak of 27.5 percent by 1976. It then dropped off to a low of 22.3 percent in 1987. The rate recovered gradually to 22.5 percent by 1994, then jumped quickly to 26.3 percent by 1997. Note that the 1997 rate is still below the rate of 27.5 percent reached two decades earlier, following the end of the Vietnam War.

Almost needless to say, the steady gains of young women have carried them well past the paltry progress of young men. In 1991 the proportion of females with bachelor's degrees passed the rate for males for the first time. By 1997 the women were 3 percentage points ahead of the males and pulling away rapidly.

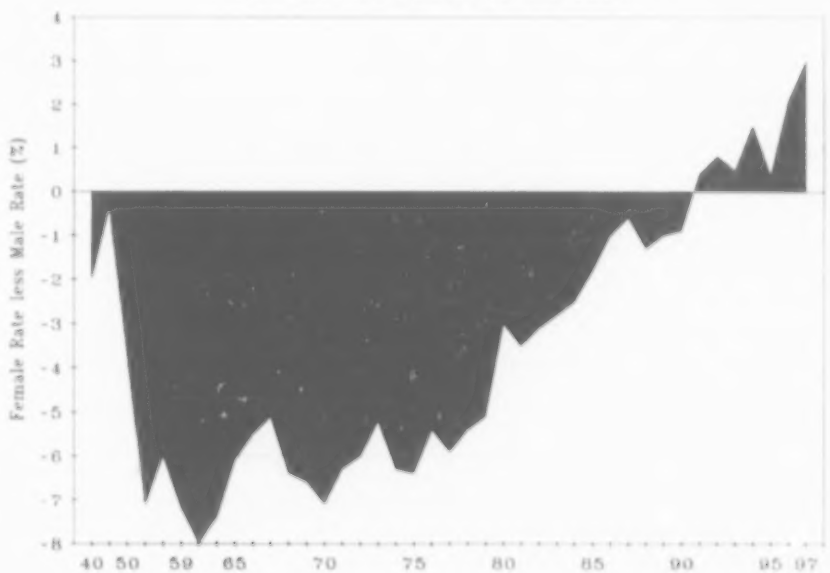
Race/ethnicity. There are noticeable and significant differences between racial/ethnic groups in high school graduation rates among 25 to 29 year olds. But the differences in bachelor's degree attainment rates are far greater, more significant, and growing is disparity. Here, whites enjoy a huge disparity over blacks and Hispanics, and the disparity is now growing suddenly and sharply in the mid 1990s.

For whites, the bachelor's degree attainment rate grew rapidly between

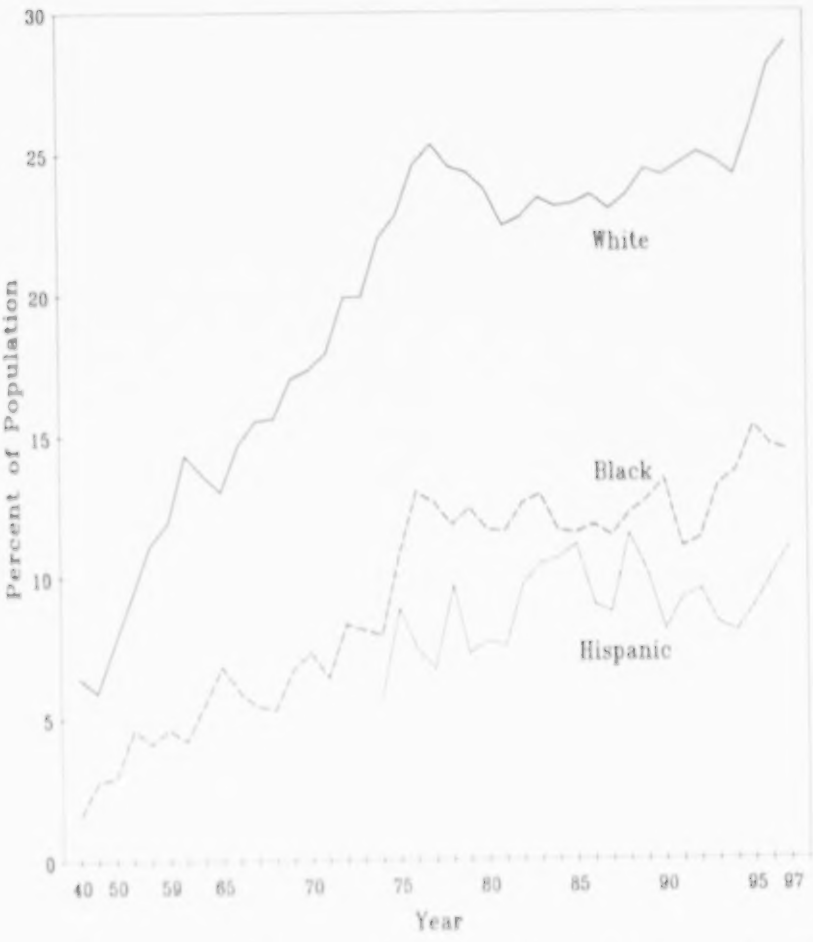
Percent of Persons 25 to 29 Years Who Have Completed 4 Years of College or More by Gender Selected Years: 1940 to 1997



Difference Between Males and Females in the Percent of 25 to 29 Year Olds Who Bachelor's Degrees Selected Years: 1940 to 1997



Percent of Persons 25 to 29 Years Who Have Completed 4 Years of College or More by Race/Ethnicity Selected Years: 1940 to 1997



1947 and 1977, from 5.9 to 25.3 percent, then dropped off until 1995 when it jumped sharply from 24.2 percent in 1994 to 28.9 percent by 1997. In 1997 27.2 percent of white males and 30.7 percent of white females had attained a bachelor's degree. This sudden and sharp increase has been driven more by white females than white males, but both genders contributed.

In 1997 14.4 percent of blacks between the ages of 25 and 29 years had attained a bachelor's degree, or about half the rate for whites. The rates were 12.1 percent for black males and 16.4 percent for black females.

Over time the bachelor's degree attainment rate for blacks rose from 1.6 percent in 1940, to 7.9 percent by 1974, then jumped 13.0 percent in 1976. From 1976 through 1992 the rate hovered around 12 percent, then reached a peak of 15.3 percent in 1995 before dropping back to 14.4 percent in 1997. Between 1987 and 1997 the attainment rate for blacks increased by 3.0 percent while it increased by 5.9 percent for whites. Thus, during the last decade, blacks have fallen further behind whites in bachelor's degree attainment by ages 25 to 29 years.

Hispanic bachelor's degree attainment among 25 to 29 year olds stood at 10 percent in 1997. The rate for Hispanic males was 9.6 percent, and for females it was 10.1 percent. Generally the rates increased between 1974--when these data were first reported--and about 1983-85.

Like blacks, Hispanics are falling farther behind whites in bachelor's degree attainment. Over the last decade while white rates have been increasing Hispanic rates appear to have declined somewhat.

Summary

The Census Bureau data indicate that most progress in educational attainment occurred before the mid 1970s. Since then some groups have done a little better:

- Females are clearly doing better than males on both high school graduation and bachelor's degree attainment.
- Blacks have basically closed the gap with whites on high school graduation rates.
- Whites have substantially increased their bachelor's degree attainment during the last three years.

Beyond these gains, little has changed over the last two decades. The high school graduation rate has plateaued. Males are just awakening from a long period of dormancy. Hispanics are farthest behind and show little evidence of awareness of the importance of education to the living standards their adult labors will support. Meanwhile, the educational attainment requirements of the labor market keep escalating. The most productive jobs require more and better training. Some are preparing themselves while others are not.

Yo! Governors! *Listen up!*

Educational Attainment in the States: Status and Importance to State Economic Welfare

For individuals and families educational attainment largely determines income and the living standards that income supports. The production function is this: more education => more income => higher living standards.

This relationship between income and education has been repeatedly demonstrated in ***OPPORTUNITY*** *with data from the Census Bureau and the Bureau of Labor Statistics. Moreover, educational attainment is consistently and strongly related to over 100 broader measures of individual and family welfare, as we reported in* ***OPPORTUNITY*** *in July 1997.*

*Because the population of states is composed of individuals and families, one should expect states with better educated adult populations to have higher incomes and living standards than do other states with relatively poorly educated adult populations. In fact our initial analysis of this issue (****OPPORTUNITY*** *February 1995) found this to be the case. In 1990 each one percent gain in the proportion of a state's adult population with four years or more of college added on average $590 or 3.1 percent to state per capita personal income.*

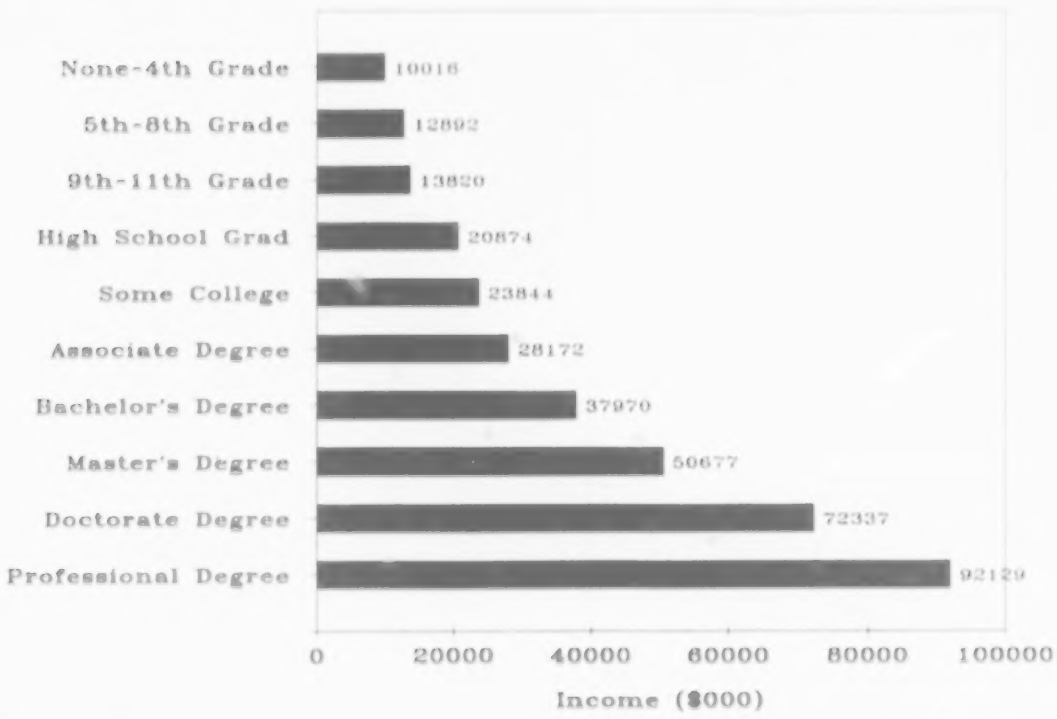
Here we both extend the preceding analysis of educational attainment to the state level for 1997, as well as examine the growing importance of the relationship between the levels of adult educational attainment and state per capita personal income. What we find is that:

- Educational attainment varies widely across the states in 1997.
- Educational attainment is shifting between the states in the 1990s.
- Educational attainment has grown in importance to state personal income in the 1990s.

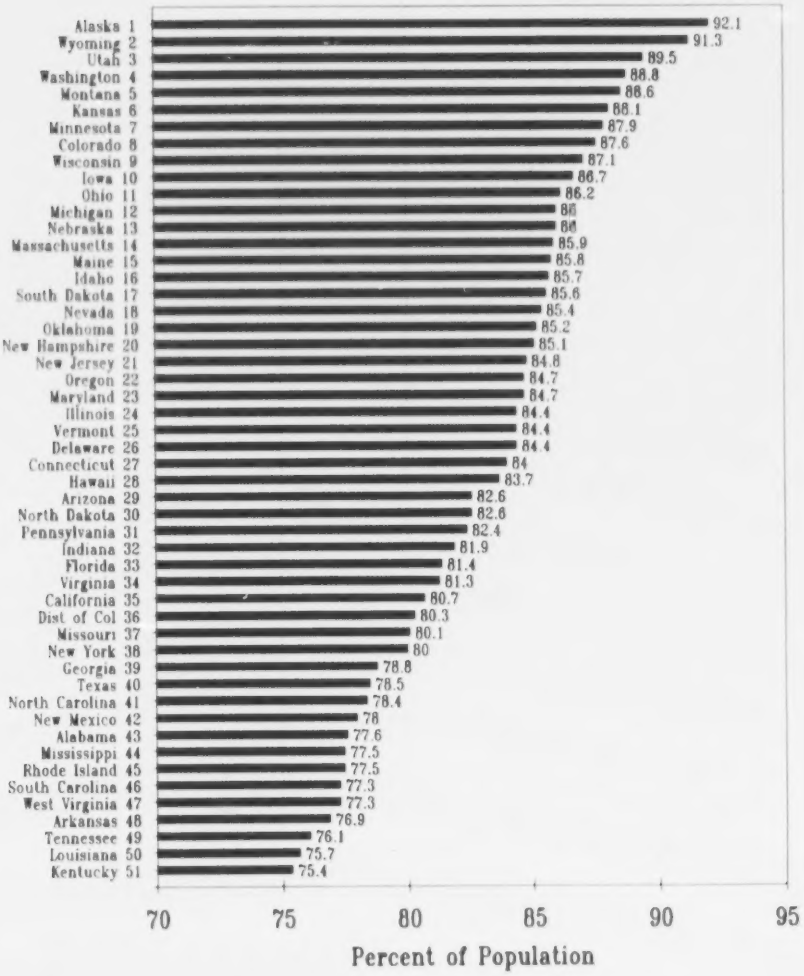
The Data

Estimates of the educational attainment of each state's population age 25 years

Average Annual Income by Educational Attainment for Persons 18 Years Old and Over 1996



High School Graduates Age 25 Years and Older 1997



and over are reported each year by the Census Bureau in its annual report from the March Current Population Survey. For all 50 states the population age 25 and over is reported, plus the proportion of this population that are high school graduates or more, and the proportion that have completed a bachelor's degree or more. In addition, for the 25 largest states, the Census Bureau reports these data in broad age bands, by gender, and for whites, blacks and Hispanics.

The 1997 data are available for downloading from the Census Bureau's website at:

http://www.census.gov

Search first on education, then educational attainment. You will need Adobe Acrobat software to download, read and print the report and its detailed tables. The 1997 data have been reported in Current Population Reports P20-505, issued May 1998, although not posted to the website until late June. Paper copy ordering instructions and charges are posted on the website.

The estimates of educational attainment by state used in this analysis are just that: estimates. They are subject to sampling error and other types of error. There are standard errors and confidence intervals associated with the point estimates used in this analysis. For those interested in this level of detail, contact information at the Census Bureau is contained in the P20-505 report.

In addition, state per capita personal income data has been used in this analysis. It is prepared by the Bureau of Economic Analysis in the monthly *Survey of Current Business* and elsewhere.

High School Attainment

In 1997 82.1 percent of the population 25 years and older was at least a high school graduate. This has been rising steadily, from 24.5 percent in 1940, to 55.2 percent in 1970, to 68.6 percent by 1980 and 77.6 percent by 1990. This rate of growth may now be slowing, however. Since the mid 1970s, the proportion of 25 to 29 year olds with high school diplomas has increased only very slightly from about 85 to about 87 percent. As younger people with this level of attainment replace older Americans with lesser formal educational attainment, the stock of adults with at least high school diplomas will gradually approach about 85 to 87 percent and stabilize at that level--short of the national gaol of a 90 percent high school graduation rate by the year 2000.

In 1997 the proportion of each state's population 25 years and over with a high school diploma ranged from 75.4 percent in **Kentucky** to 92.1 percent in **Alaska**. All of the states that rank in the top ten by this measure are either western or midwestern states. Most of the states that rank in the bottom ten are southern states.

The opposite regional picture emerges, however, in terms of gains in this measure of educational attainment between 1991 and 1997. Over the last six years the largest gain in the proportion of persons 25 and over with at least a high school diploma has been in **Alabama**, with a gain of 10.3 percentage points. Other large gainers during this period were **West Virginia, Tennessee, Mississippi** and **Kentucky**. These southern states, with the lowest levels of high school education in their adult populations, are gaining ground quickly on the rest of the country.

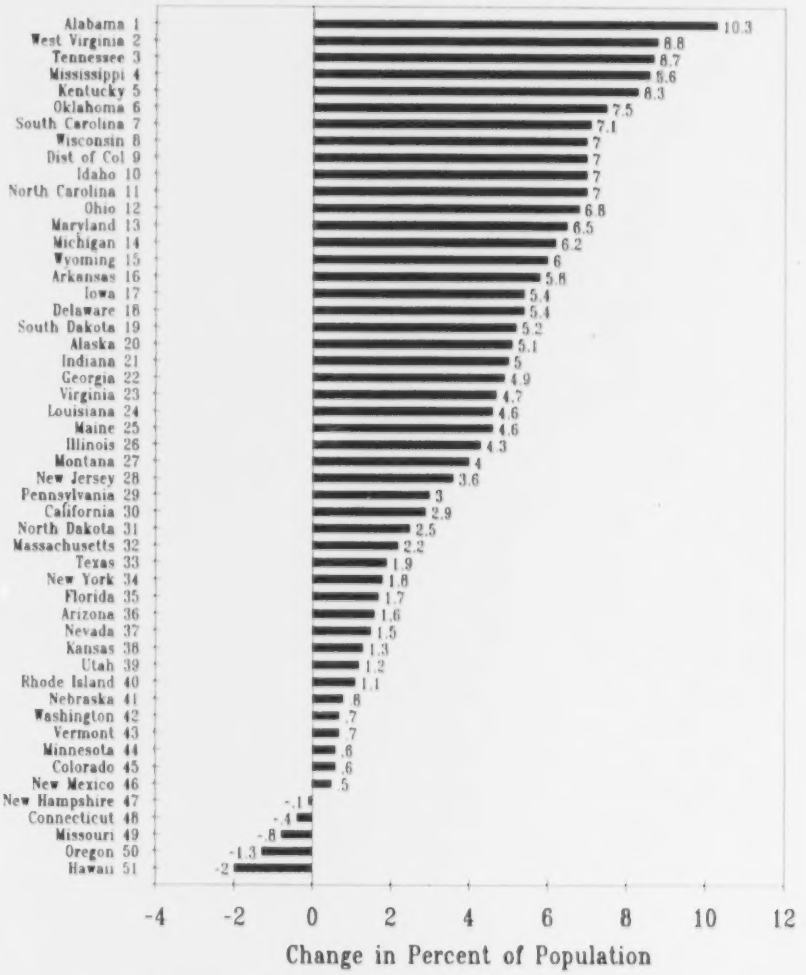
Five states have actually lost ground between 1991 and 1997. These states are **Hawaii** (which remains mired in economic recession), **Oregon, Missouri, Connecticut** and **New Hampshire**. In addition 19 states had gains smaller than the national average (+3.7 percent) in the proportion of their adult population with high school diplomas between 1991 and 1997.

From this one may conclude that historical differences in the distribution of adults with at least a high school education are being reduced. The South appears to be catching up to the rest of the United States.

Bachelor's Degree Attainment

By 1997 23.9 percent of the population 25 years and over had attained at least a bachelor's degree from college. This proportion has increased steadily over time from 5.9 percent in 1940, to 11.0 percent in 1970, to 17.0 percent by 1980 and 21.3 percent by 1990. This growth occurs when college-educated younger people replace the stock of older Americans without college educations, when some older Americans acquire bachelor's degrees beyond traditional college-age enrollments and when immigrants with college educations come to live in the United States.

Change in High School Graduates Age 25 Years and Older 1991 to 1997



Across the states, the proportion of those 25 and over with bachelor's degrees ranged from 14.6 percent in **Arkansas** to 33.7 percent in the **District of Columbia**. Generally, the states with the lowest proportion of adults holding bachelor's degrees were southern states, and the states with the largest proportions were northern and western states.

Between 1991 and 1997 43 states saw increases in the proportion of their population 25 and over with bachelors degrees. **Delaware** led the states, increasing the share of its workforce with college degrees by 7.5 percent. Other states with large increases were **Maryland** (+7.3 percent), **Mississippi** (+6.4 percent), **Minnesota** (+6.0 percent) and **Virginia** (+5.0 percent).

At the other extreme, eight states saw declines in the proportion of their population 25 years old and over that held at least a bachelor's degree. **Vermont** led this group, dropping 4.7 percentage points between 1991 and 1997. Vermont was followed by **Hawaii** (-4.5 percent), **Colorado** (-3.3 percent) and **Arizona** (-3.0 percent).

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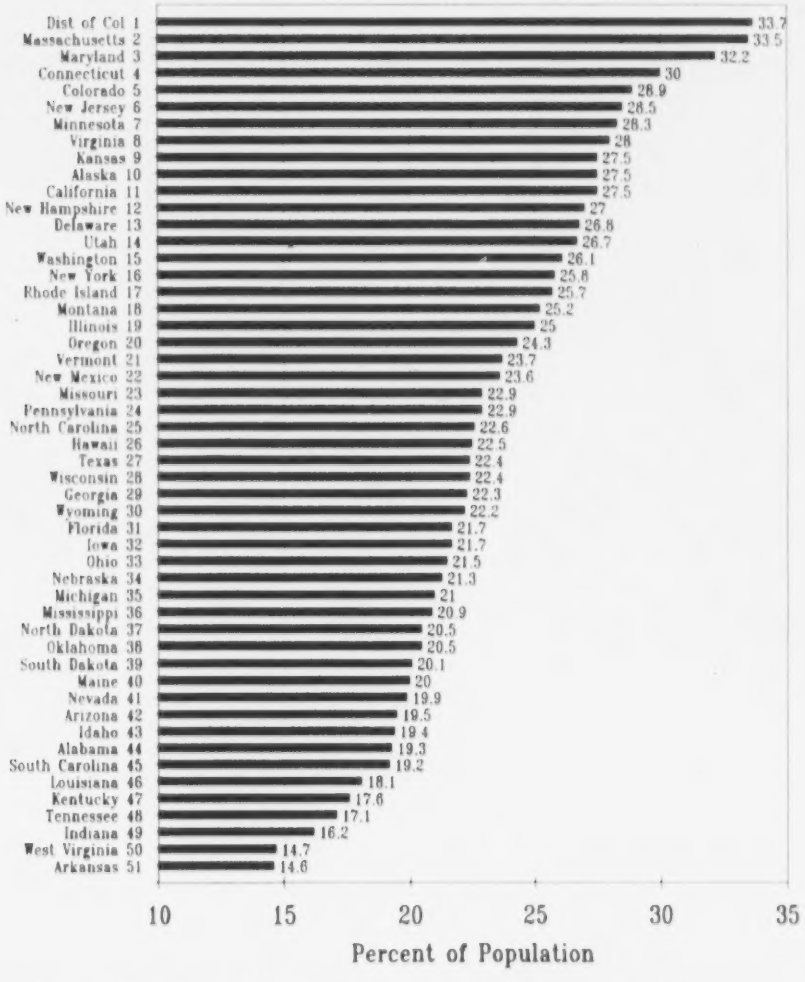
Bachelor's Degree Graduates Age 25 Years and Older 1997



Interstate Migration of College-Educated Workers

States have two ways to improve the educational attainment of their adult population.

- States can (and do) "grow their own" by providing higher educational opportunities for their own citizens. This means focusing on the three public policy components of higher educational opportunity: providing capacity, providing quality, and assuring affordability. This is the material covered in **OPPORTUNITY**.
- States can (and do) attract college-educated workers from other states by marketing natural amenities, creating growth-geared business environments, building and supporting strong public school systems that attract families, etc.

Here we concentrate on the interstate migration of college-educated adults. The most recent Census Bureau report on geographic mobility is P20-497, *Geographical Mobility: March 1995 to March 1996*, which is available for downloading from the Census Bureau's website.

Between March 1995 and March 1996, 16.3 percent of all Americans changed the place where they live. Compared to historical data, this represents a decline. In the 1950s and 1960s, at least 20 percent of Americans changed residences annually. Of all moves between 1995 and 1996, 63 percent were within the same county, 19 percent were from one county to another within the same state, and 15 percent changed states. Additionally, 3 percent moved into the United States from abroad.

Characteristics of movers are important to this analysis. Moving rates by age are highest--about 33 percent--for those between the ages of 20 and 29 years. They decline with age, and are lowest for those 65 years and over. Moving rates vary little by educational attainment, ranging from 12 percent for those with less than a 9th grade education, to 15 percent for those with bachelor's degrees. However, distance moved *does* vary substantially with educational attainment. As shown in the following chart, the proportion of *movers* who moved between states between 1995 and 1996 ranged from 10 percent of those with less than a ninth grade education to 25 percent for those with graduate and professional degrees. Clearly college education, particularly from the baccalaureate degree and up, adds distance to geographic mobility.

We have attempted to construct a "stock and flows" model of the interstate migration of persons with at least a bachelor's degree from college. This approach begins with a measure of the stock of persons with at least a bachelor's degree in a particular place (state) at a particular time. Then the additions over time to that stock are added. These include bachelor's degrees awarded in that place, plus immigrants from elsewhere who bring with them their bachelor's degrees earned elsewhere. Then subtractions over time are subtracted. These

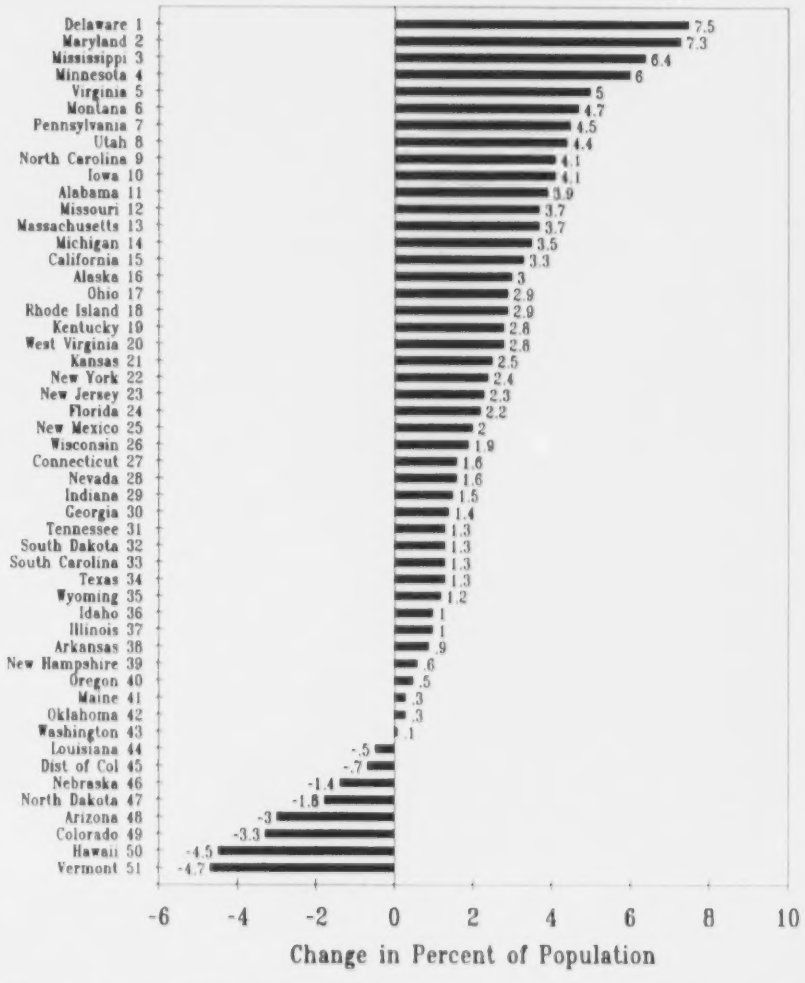
include emigrants and deaths. We have data for all but deaths of bachelor's degree holders to complete this model for the 25 largest states (which award over 80 percent of bachelor's degrees). Because bachelor's degree holders is quite small among those who die (a relatively very small share of the population received bachelor's degrees 40 to 60 years ago), we ignore this component in the following analysis.

In March of 1989 there were 34,457,000 people living in the United States with bachelor's degrees. Between March of 1989 and March of 1996, there were 7,779,995 bachelor's degrees awarded by colleges and universities in the United States. Thus, the sum of the stock in March of 1989 plus the bachelor's degrees awarded between 1988-89 and 1994-95 was 42,228,112. But the Census Bureau reported that there were 41,573,000 persons with bachelor's degrees in March of 1996. The difference of -655,112 represents the excess of deaths of bachelor's degree holders over immigrants to the United States holding at least the same degree.

The more interesting analyses of these data occur at the state level. Between 1989 and 1996, the largest net importer (excess of stock in 1996 over stock in 1989 plus bachelor's degrees awarded between these years) of persons with bachelor's degrees was **Georgia**, which added 171,506 persons with bachelor's degrees from other states to its stock. Georgia had 754,201 persons with bachelors degrees in 1989 and produced 165,098 more from its own colleges and universities between 1989 and 1996. This totalled 919,299, but Georgia counted 1,090,805 in 1996. The difference of 171,506 was a net migration gain from other states.

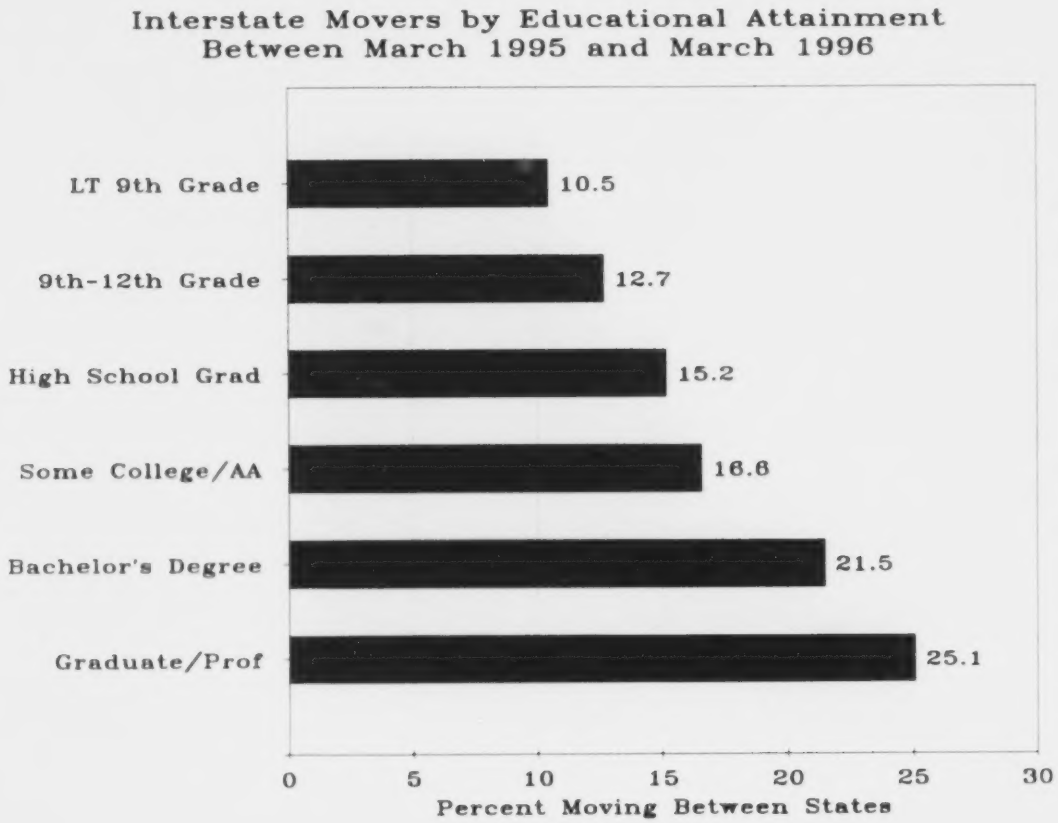
Other large states with substantial net migration gains of bachelor's degree holders between 1989 and 1996 included **Maryland** (+123,052), **Ohio** (+62,439), **Washington** (+58,675), **Tennessee** (+50,113), **Alabama** (+47,379) and **North Carolina** (+45,732). Five other large states also had positive net migration of bachelor's degree holders during this period.

Change in Bachelor's Degree Graduates Age 25 and Older 1991 to 1997



At the other end of the scale, the state with the largest net loss of bachelor's degree holders was **New York**. Between 1989 and 1996 New York had a net migration loss of 240,756 persons with bachelor's degrees. In 1989 New York had 2,802,063 bachelor's degrees. Between 1989 and 1996 colleges and universities produced 649,313 bachelor's degrees. The sum of the stock plus additions was 4,451,376, but by 1996 New York had only 3,210,620 persons with bachelor's degrees. The difference was 240,756, and represents a negative net migration of bachelor's degree holders from New York between 1989 and 1996.

Other states with substantial negative net migration of bachelor's degree holders between 1991 and 1997 were



Pennsylvania (-163,121), **Virginia** (-113,401), **Indiana** (-112,398), **Texas** (-99,070), **Arizona** (-61,231), **Massachusetts** (-61,198), **Missouri** (-56,349) and **South Carolina** (-50,481). Four other states had smaller negative net migration numbers.

The 26 smaller states (25 states plus District of Columbia) had a cumulative negative net migration of bachelor's degree holders between 1989 and 1996. This means that these states were suppliers of college graduates to the larger states. These small states had 16 percent of the stock of bachelor's degree holders in 1989 and 1996. But during the intervening years they produced nearly 19 percent of the bachelor's degrees. Apparently, students from larger states chose to get their baccalaureate educations in smaller states, then return to the larger states for the better jobs offered there.

Educational Attainment and Income

Educational attainment is a direct contributor to income for persons and families. It is just as surely a contributor to state income. Those states with concentrations of college educated adults--either home-grown or attracted from other states--tend to have the highest incomes. Similarly, those states with the lowest concentrations of college graduates tend to have the lowest incomes.

Moreover, just as income has been redistributed according to educational attainment for individuals and families since 1973, so too is state income being redistributed according to educational attainment of the adult population/workforce. In general, those states with growing proportions of college graduates are experiencing greater than average growth in incomes. Other states with declining proportions of college graduates have experienced relative declines in state income.

The relationship between education and income by state for 1997 is shown in the following chart. Educational attainment is measured as the proportion of persons 25 years and older who have at least a bachelor's degree from college. Income is measured as state per capita personal income. For this scatter-plot, the regression line through the data is:

per capita income = (686 x percent with bachelor's degree) + 8597

The correlation between per capita income and college education in 1997 is .757.

To illustrate how this regression model works, consider a hypothetical state where 25 percent of the population 25 years and over has at least a bachelor's degree. This predicts per capita personal income as follows:

per capita income = (686 x 25) + 8597 = $25,747

If the percentage of the adults with at least a bachelor's degree increases to 26 percent, then:

per capita income = (686 x 26) + 8597 = $26,433

Thus, a one percent gain in the proportion of a state's population 25 years and older with a bachelor's degree adds $686 to state per capita personal income. Thus, each one percent gain in the proportion of each state's population 25 and over with a bachelor's degree adds about 2.7 percent of state per capita personal income.

To examine changes in state income with respect to educational attainment, we replicated our 1997 data set with 1991 data (dollars converted to 1997 dollars). The regression model with 1991 data (1997 dollars) was:

per capita income = (557 x percent with bachelor's degree) + 10,251

Here each one percent gain in the proportion of a state's population 25 years and older that has at least a bachelor's degree added $557 to state per capita personal income (in 1997 dollars). Each $557 gain added about 2.2 percent to state per capita personal income in 1991.

In 1991 the correlation between income and education across the states was .704. Thus, between 1991 and 1997 the correlation between state income and education increased (from .704 to .757), and the percentage added to state per capita personal income by educational attainment increased from 2.2 to 2.7 percent.

Clearly, the importance of educational attainment to state income and the living standards state income supports has grown between 1991 and 1997. This result is to be expected since the corresponding data for individuals and families are so unambiguous.

Meaning for State Policy Makers

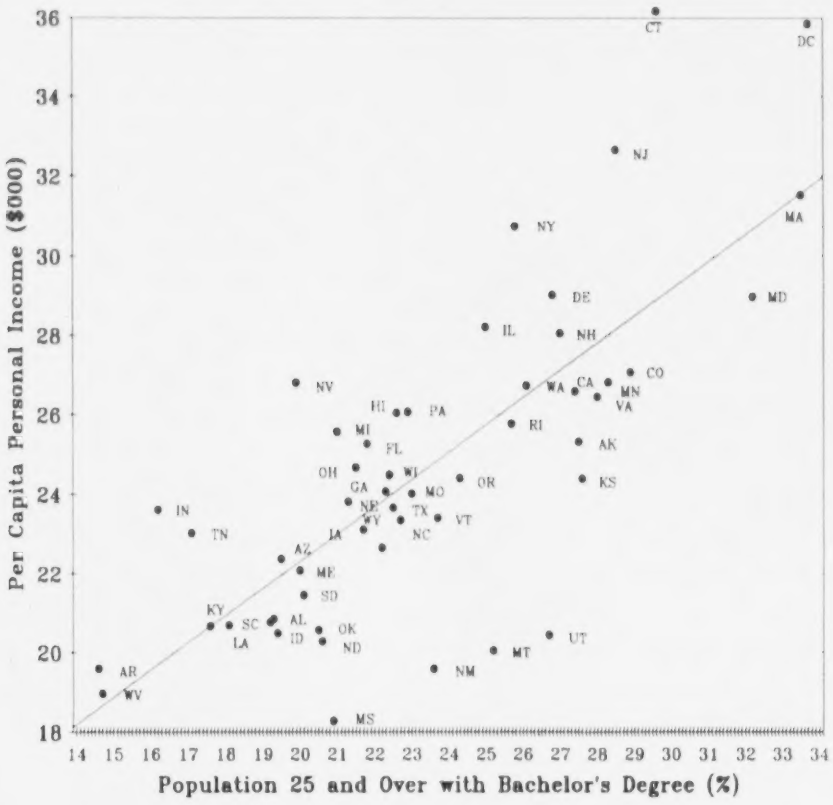
Yo! Governors! Are you listening?

Higher education has become essential preparation for productive and well-paid jobs in the economies of every state. Since 1973 family incomes have been redistributed according to the educational attainment of the head of

Net Migration of Bachelor's Degree Holders by State

State	Stock: March 1989	Additions to stock: Bachelor's degrees awarded 88-89	89-90	90-91	91-92	92-93	93-94	94-95	Sum of Stock + Additions	Stock: March 1996	Diff: Net Migr.	Net Migr. Rate
Alabama	328,227	16,508	17,111	18,308	19,628	20,525	21,150	19,924	461,381	508,760	47,379	14.4%
Arizona	514,696	13,767	14,265	18,068	14,680	15,807	16,093	16,175	623,551	562,320	-61,231	-11.9%
California	4,812,565	91,508	98,157	100,484	107,462	111,010	111,848	109,714	5,542,748	5,513,839	-28,909	-0.6%
Florida	1,744,470	34,244	35,600	38,927	41,090	43,212	44,075	44,924	2,026,542	2,050,860	24,318	1.4%
Georgia	754,201	19,883	21,415	22,322	23,493	25,390	26,283	26,312	919,299	1,090,805	171,506	22.7%
Illinois	1,600,007	48,865	49,757	50,508	53,263	51,482	52,330	52,270	1,958,482	1,976,728	18,246	1.1%
Indiana	533,415	26,874	27,668	28,886	30,770	31,453	30,769	30,253	740,088	627,690	-112,398	-21.1%
Kentucky	374,049	12,337	12,225	12,973	13,861	14,396	14,629	14,570	469,040	474,594	5,554	1.5%
Louisiana	452,698	16,210	15,905	16,309	16,985	17,825	17,787	17,920	571,639	556,962	-14,677	-3.2%
Maryland	867,545	17,928	18,493	19,235	20,324	20,427	20,720	19,908	1,004,580	1,127,632	123,052	14.2%
Masschstts	1,138,682	42,500	43,491	44,487	45,051	42,747	42,351	40,279	1,439,588	1,378,390	-61,198	-5.4%
Michigan	1,058,616	40,767	42,428	44,213	44,789	45,711	44,925	44,317	1,365,766	1,345,778	-19,988	-1.9%
Minnesota	608,578	21,901	22,881	23,619	24,453	24,762	24,746	24,068	775,008	784,233	9,225	1.5%
Missouri	739,144	23,700	24,651	24,917	26,552	26,954	27,494	27,931	921,343	864,994	-56,349	-7.6%
New Jersey	1,382,252	22,898	22,859	23,624	24,207	25,185	25,234	24,627	1,550,886	1,548,252	-2,634	-0.2%
New York	2,802,063	87,719	89,567	92,629	95,611	97,104	93,134	93,549	3,451,376	3,210,620	-240,756	-8.6%
No Carolina	805,896	26,981	27,288	28,795	30,826	31,852	32,730	32,321	1,016,689	1,062,421	45,732	5.7%
Ohio	1,276,398	45,141	47,044	48,799	50,557	51,487	50,982	49,588	1,619,996	1,682,435	62,439	4.9%
Pennsylvania	1,585,545	58,890	60,495	62,184	64,304	65,073	64,326	63,027	2,023,844	1,860,723	-163,121	-10.3%
So Carolina	389,158	12,524	13,215	14,250	14,219	15,254	15,318	15,176	489,114	438,633	-50,481	-13.0%
Tennessee	534,724	17,398	17,577	18,063	19,139	20,371	19,992	20,463	667,727	717,840	50,113	9.4%
Texas	2,226,048	56,987	61,030	65,112	64,313	67,598	69,298	70,048	2,680,434	2,581,364	-99,070	-4.5%
Virginia	1,116,108	26,028	27,119	28,960	30,320	30,858	31,226	31,106	1,321,725	1,208,324	-113,401	-10.2%
Washington	722,283	18,118	18,359	19,201	19,737	20,829	21,321	21,828	861,676	920,351	58,675	8.1%
Wisconsin	613,285	25,604	26,276	26,343	27,542	27,709	27,484	26,943	801,186	820,911	19,725	3.2%
All others	5,476,347	188,931	193,183	200,045	209,981	216,712	219,596	219,609	6,924,404	6,657,541	-266,863	-4.9%
TOTAL	34,457,000	1,014,211	1,048,059	1,091,261	1,133,157	1,161,733	1,165,841	1,156,850	42,228,112	41,573,000	-655,112	-1.9%

State Per Capita Personal Income
as a Function of Adult Educational Attainment
1997



the household. Those with education beyond high school have at least kept up with the cost of living--many have moved ahead with formal education beyond the bachelor's degree. But families headed by persons with high school educations or less have seen very real and substantial declines in their incomes and the living standards those incomes support. These lessons apply to individuals, families, communities, states and the country as a whole. After twenty-five years of this, this message is inescapable.

However, since FY1979 all states have been reducing state investment in their public higher education systems and institutions. Expressed either as a proportion of state personal income (state tax base) or as a proportion of state government expenditures, higher education's share of social resources has been shrinking for the last 18 years. Public institutions have been aggressively raising tuition and fee charges to students to offset this loss of state funding. Public institutions believe, unlike governors, that opportunity for higher education costs money. Capacity costs money. Quality costs money. Affordability costs money. Inadequately funded institutions sacrifice one or more of these components of higher educational opportunity.

Some states may think they can avoid their responsibilities for investing in their future. We do not think they can. Certainly a few states have such powerful economic engines generating high quality jobs that they will attract college graduates from other states. Some states offer mountains and lakes or ocean beaches that offer quality of life benefits. But the same migration data that find college graduates ready, willing and able to cross state boundaries in search of good jobs also report that the less-educated are much less mobile. They move too, but generally stay close to home. They become the poor that remain with us--they do not go away (although current welfare policy seems to wish they would just disappear). They incur large social costs of many kinds and repay little or none of what is spent on their behalf.

Whether states try to attract the college graduates produced in other states may be a matter of choice. But there is no choice when it comes to the poor. They are largely geographically immobile and remain about where they are. Their plight has grown more desperate with economic changes that began twenty-five years ago and show no signs of abating. They must be educated or trained in ways that increase their economic productivity and hence their economic value to employers.

Governors in states with strong historical records of educational support and attainment should not be complacent about past achievements. The educational laggards among the states--notably the southern states--are making great strides to close the educational attainment gap with the rest of the states. The southern states in particular seem to sense that educational investments in their future workforce are key to the economic prosperity all states pursue. States with stronger historical records seem to have lost this appreciation of the link between social investment in higher education and economic prosperity. The futures of these states are endangered by their own complacency.

Heavy summer reading ...

Economic Perspectives on Education and the Value of Labor

Economics can be a truly brutal social science. Like Weberian bureaucratic sociology, human beings are recognized and treated as objects in larger systems. Economics treats human beings as units of production in economic systems. Economics values people according to their productivity, and increasingly public policy follows this lead in viewing education as the capitalization of human resources for roles in the economic production of wealth.

There is no room in this framework of thinking for other human traits--either private or social--that do not add to economic productivity. Forget emotion, love, social justice, misfortune, the intrinsic value of beauty, the golden years of retirement, because they all divert our focus from *growing the Gross Domestic Product*. We care far less about how the GDP is produced than we do about its size and its expansion. We ignore its highly unequal and growing maldistribution because broader measurement of social welfare could possibly constrain size and growth of aggregate national wealth. We try to deal with losses to economic productivity by building and filling prisons, and by terminating welfare benefits. We ignore the fact the beneficiaries of this wealth generator are limited to the top 20 percent of the income distribution.

This economic thinking increasingly guides policy making in government in the United States and elsewhere. Economic growth is everything, regardless of how it is achieved or who is hurt or ignored in the process. Communities and states compete fiercely for jobs and industry. The federal government seeks to maximize American economic advantages in world markets. Along the way, we discard social concepts and policies such as affirmative action, social equity, progressive income taxation, nurturing our youth. The United States does not qualify as a caring society. But it defines for the world a productive economic system. We are best described as USA, Inc.

Examples of the economic analysis of the relationship between education and labor productivity abound. We recommend three here for serious summer reading. Those who wish to understand the powerful influence of economics on current government policies regarding education and labor force productivity must--we emphasize *must*--come to an understanding and appreciation of this body of economic policy literature. It is guiding and shaping federal and state policy toward educational opportunity.

"Labor Market Consequences of Schooling Choices," by Harley Frazis and Daniel Hecker, in *Report on the American Workforce*, 1997, U.S. Department of Labor. To order, call Government Printing Office Order desk at (202) 512-1800, and request stock number 029-001-03269-2. Price: $11.00.

This article is one of three contained in a periodic U.S. Department of Labor report that addresses labor market characteristics, compensation and conditions of work.

Topics covered include:

- Labor market outcomes by educational level in 1995: earnings, labor force status, experience and job tenure
- Education and occupation: occupational patterns for men and women, earnings by occupation
- Labor market outcomes by educational level, 1976-95
- Effects of elementary and secondary school quality
- Effects of high school curriculum and grades
- Returns to vocational training
- Earnings and occupations by college field of study and degree level: earnings, bachelors degree holders, Masters degree holders, doctoral degree holders, occupational patterns by major field of study and degree level, major field of study related to quality of job and occupation, trends in effects of college major on earnings
- Effects of college quality and grades

Education for What? The New Office Economy. By Anthony P. Carnevale and Stephen J. Rose. (1998.) Educational Testing Service, Princeton, NJ. (609) 734-5531. To order, call Educational Testing Service at (202) 659-8056. Free.

This is a report of a study of jobs in the new office economy. American economic activity has moved from industrial production to the new office. The jobs of this economy include middle managers, insurance agents, real estate brokers, financial planners, executive secretaries, sales representatives, accountants, lawyers, small business owners, CEOs, vice presidents, writers, clericals, editors, lobbyists, janitors, economists, and others. They make up 41 percent of the workforce and earn 50 percent of

total earnings. In 1995 they earned 47 percent more than non-office workers. This new office economy seems to encourage growing earnings inequality.

Topics covered include:

- New definitions: What workers actually do
- Elite jobs, good jobs and less-skilled jobs
- Who works in the office
- The office takes over
- Office work pays best
- The majority of college graduates become office workers
- More educated workers, more good jobs
- A growing divide
- A more diverse workforce
- Equality remains elusive: racial and gender gaps continue
- Implications for society and educators

Education and the Economy: An Indicators Report. By Paul T. Decker, Jennifer King Rice and Mary T. Moore. (April 1997.) National Center for Education Statistics, U.S. Department of Education, Washington, DC. To order, call Government Printing Office Order Desk at (202) 512-1800, and request stock number 065-000-00990-1. Price: $14.00.

This report examines relationships between education and training, worker productivity, and American living standards. Topics covered include:

- Worker productivity and education
- Economic consequences of educational attainment
- Economic consequences of educational achievement
- Economic consequences of adult literacy
- The role of occupations in the education-earnings link
- Training of labor force participants
- International trends in education

These reports each offer valuable insight into the way USA, Inc. works, and the perspectives of federal and state policy makers in making investment decisions to increase Gross Domestic and Gross State Products. None are light reading and all rely heavily on the kinds of data and analyses reported regularly in these pages of **OPPORTUNITY**.

For those with social welfare agendas, as well as those who still believe in education for education's sake and the cultural contributions of education, this is important reading.

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The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 73 | Oskaloosa, Iowa | July 1998

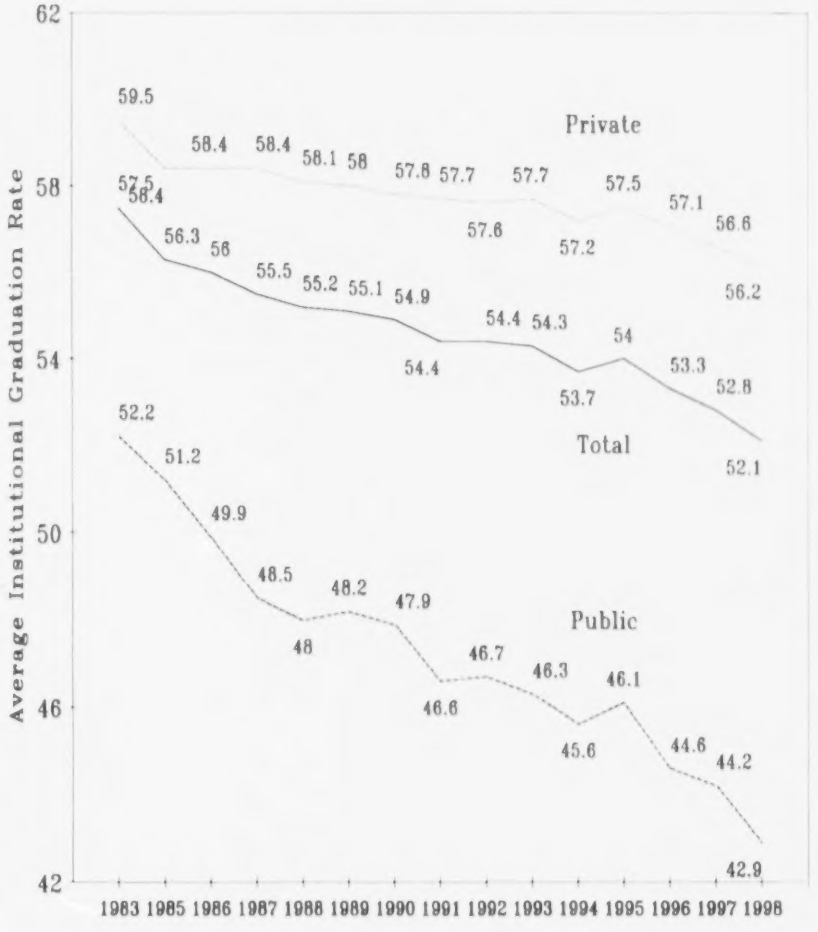
Institutional Graduation Rates by Control, Academic Selectivity and Degree Level 1983 to 1998

Nearly all first-time, full-time college freshmen entering 4-year colleges or universities plan to earn at least a bachelor's degree from college somewhere. In the fall 1997 American College Freshman Survey, the range was from 98.2 percent of freshmen entering public black colleges to 99.7 percent of freshmen at private universities. (Even 81.2 percent of those entering 2-year colleges planned to earn at least a bachelor's degree from college somewhere.)

Moreover, nearly all of these freshmen expect to earn their bachelor's degree at the institution where they first enroll. In the 1997 Freshman Survey, the range was from 92.7 percent of freshmen entering public black colleges to 99.2 percent of those entering private universities. (Amazingly, even 23.5 percent of the 2-year college freshmen planned to earn at least a bachelor's degree from their 2-year college.)

However, recent survey data reported by ACT indicate that five years after enrolling, only 52 percent of freshmen entering 4-year colleges or universities have graduated. Moreover, the rate at which freshmen entering 4-year colleges and universities have been graduating after five years has been declining at least since 1983. This decline has occurred at both public and private institutions.

5-Year Institutional Graduation Rates
at Public and Private 4-Year Institutions
1983 to 1998



Significantly, however, it is not true at highly selective colleges and universities, either public or private. These are the colleges that enroll freshmen with the highest average family incomes. Their graduation rates went up between 1988 and 1998.

What the ACT data have reported in the past and report again in this most recent survey is that:

- Institutional graduation rates vary directly with the academic selectivity of the admitting institution. IGRs are highest at the most selective institutions and lowest at the least selective institutions.
- At any level of academic selectivity, graduation rates are higher in private institutions than they are in public colleges and universities.
- Graduation rates are rising over the last decade at highly selective institutions, especially public institutions. They have declined the most at the least selective institutions. This indicates that students from high income families have improved their 5-year graduation rates, while those from lower income families have experienced declines in institutional graduation rates.

These changes have occurred over the last decade at the same time that public policy makers have expressed concern over lengthening time to graduate and have created some 3-year bachelor's degree programs to encourage students to graduate sooner.

The story that these data tell is consistent with the broad picture of changing higher educational opportunity since the late 1970s told in nearly every issue of OPPORTUNITY. The cost-shifting from taxpayers to students that began about 1980 has reintroduced price barriers to student enrollment. Students face very much higher prices in both public and private higher education today. For those who need financial aid to help pay these attendance costs, the financial aid provided by the federal government is much more expensive. The combined effects have been to reimpose price barriers to higher education that had been substantially reduced in the 1960s and 1970s. These price barriers affect the affluent least, and the poorest the most.

These price barriers are neither equitable nor just. Nor are they in society's long-term interest where economic changes require far broader and deeper and continuing education and training than has ever been required by the labor market before.

The Data

Each year since 1983, ACT (formerly American College Testing Program) has released the results of a survey of attrition and graduation at American colleges and universities. Data are compiled and reported from about 2500 public and private 2-year and 4-year colleges and universities. The report is called the National Dropout and Graduation Rates Report.

Copies of this report are available free from ACT by calling Dr. Wes Habley at (319) 337-1483, or sending Dr. Habley an e-mail request at habley@act.org, and requesting a copy of the 1998 National Dropout Report. In addition, ACT maintains data through 1997 on its website at:

http://www.act.org

under the research page.

The report consists of a set of six tables, four of which summarize freshman-to-sophomore dropout rates, and two tables which summarize data on institutional graduation rates. These rates are reported as means and standard deviations. The data are grouped by institutional control (public, private), degree level (associate, bachelor's, master's and PhD) and self-reported admissions selectivity.

Admissions selectivity is the most important classification of these data in the ACT report. Institutional graduation rate data are averaged at

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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five levels of academic selectivity:

- *Highly selective.* Majority of accepted freshmen in top 10% of high school graduating class.
- *Selective.* Majority of accepted freshmen in top 25% of high school graduating class.
- *Traditional.* Majority of accepted freshmen in top 50% of high school graduating class.
- *Liberal.* Some freshmen from lower half of high school graduating class.
- *Open.* All high school graduates accepted, to limit of capacity.

These classifications are self-reported by institutions participating in the ACT survey.

One other feature of the survey is unique: institutional graduation rates reported at five years after the initial entry of the freshman cohort. Most other surveys--IPEDS, US News, NCAA, HERI, NCES transcript studies--use a six year standard in recognition of the longer times students are known to be taking to complete their bachelor's degrees. However, the ACT survey predates all of these surveys. It provides a useful measure of continuity to study institutional graduation rates over a relatively long period of time.

Trends

As the chart on the first page of this issue of OPPORTUNITY clearly shows, 5-year institutional graduation rates have been declining since 1983. The overall rate has declined from 58.4 percent in 1983 to 52.1 percent by 1998. The decline occurred in every year but two between 1983 and 1998.

One may translate these rates into numbers to illustrate the magnitude of the decline. Out of every 1000 freshmen that began their studies at a 4-year college or university, 595 had graduated from that institution five years later. But in 1998, the number graduating from a similar cohort had dropped to 521. So 63 fewer freshmen per 1000 that started were graduating by 1998 compared to 1983.

The larger decline occurred in public 4-year colleges and universities. Between 1983 and 1998, the average IGR for public institutions declined from 52.2 to 42.9 percent. This decline has been steep and nearly continuous. It shows no signs of slowing in the 1990s compared to the rate of decline in the 1980s.

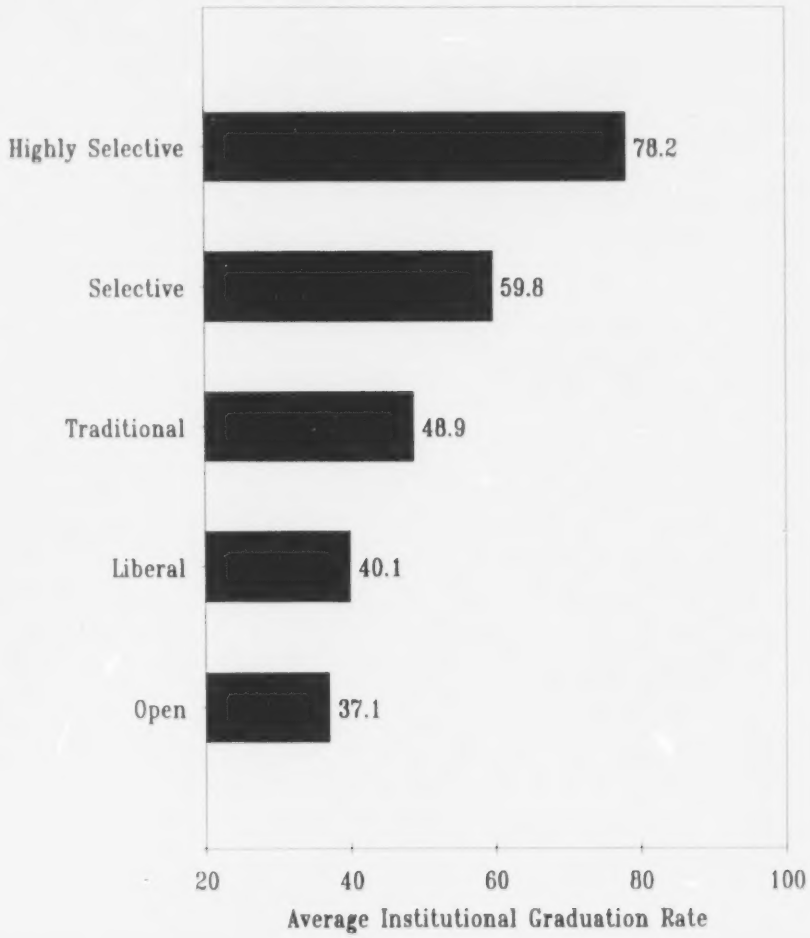
However, declines in IGRs occurred in private colleges and universities between 1983 and 1998 too. Here the rate declined from 59.5 to 56.2 percent. This decline may have accelerated since 1995 in private institutions.

Academic Selectivity

One of the most important findings in the ACT report is the variation in institutional graduation rates across institutions grouped by freshmen admission academic selectivity.

As shown in the chart on this page,

5-Year Institutional Graduation Rates by Academic Selectivity for Institutions Awarding Bachelor's Degrees 1998



IGRs ranged from 37.1 percent at open admissions colleges and universities, to 78.2 percent at highly selectivity institutions. The range was more than double from least to most selective.

The measures of academic selectivity--in this case high school class rank--are highly correlated with family income. That is to say, as academic measures such as test scores (ACT, SAT), high school achievement (grades, class rank) increase, so too do the central tendency measures (average, median) of family income.

The meaning of this correlation is that students from families with high incomes are far more likely to graduate from college with a bachelor's degree than are students from low income families. This is true for individual students. It is also true for institutions that enroll students from different academic aptitude backgrounds.

Using data from the UCLA survey of American College Freshmen for 1997, we can get a good idea about the correlation between academic selectivity measures and family income as shown in the table on this page. Academic selectivity definitions are based on the average SAT V+M or ACT composite score of the entering freshman class. The ranges--low, medium, high and very high--differ across groups of public and private four-year colleges and universities, and are explained in the appendix to the Freshman Survey.

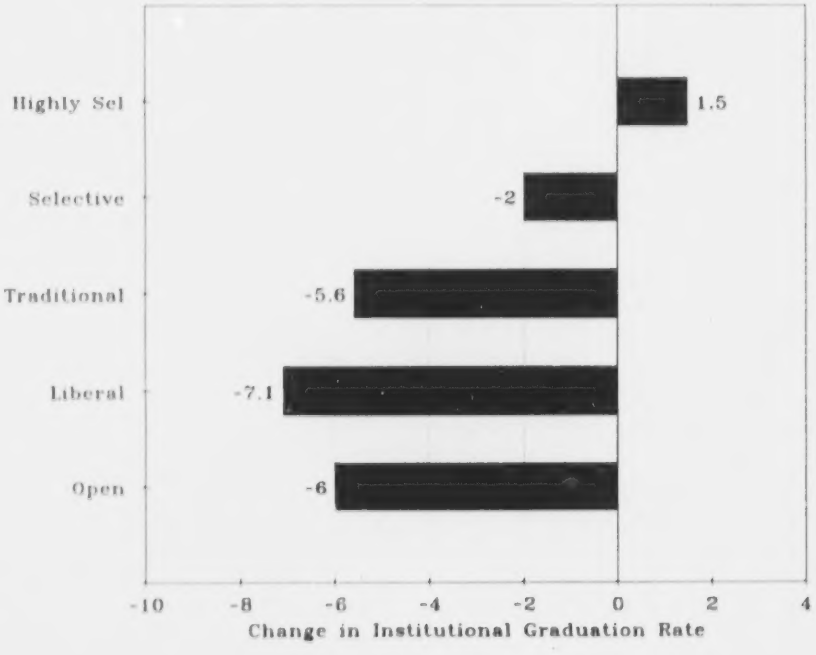
Where the Freshman Survey reports data by academic selectivity, median estimated parental income for freshmen increases with selectivity. For example, at public 4-year colleges, median family income was $46,639 at the least selective institutions, $56,591 at medium selectivity and $65,912 at colleges that were highly selective.

Median Estimated Parental Income for College Freshmen by Institutional Level, Control and Academic Selectivity 1997

	Academic Selectivity				All
	Low	Medium	High	Very High	
Two-Year					
Public	-	-	-	-	$42,097
Private	-	-	-	-	$44,747
Four-Year					
Public	$46,639	$56,591	$65,912	-	$51,920
Nonsectarian	$54,048	$57,692	$66,429	$86,213	$60,814
Protestant	$49,453	$58,692	$64,592	-	$54,286
Catholic	$53,361	$54,211	$73,165	-	$58,824
Black					
Public	-	-	-	-	$33,451
Private	-	-	-	-	$38,230
Universities					
Public-men	$63,241	$63,491	$74,890	-	$62,838
Public-women	$57,603	$58,060	$70,233	-	
Private-men	$72,162	$88,636	$92,376	-	$81,678
Private-women	$67,674	$82,042	$92,481	-	

Source: *The American Freshman: National Norms for Fall 1997.*

Change in 5-Year Institutional Graduation Rates by Academic Selectivity 1988 to 1998



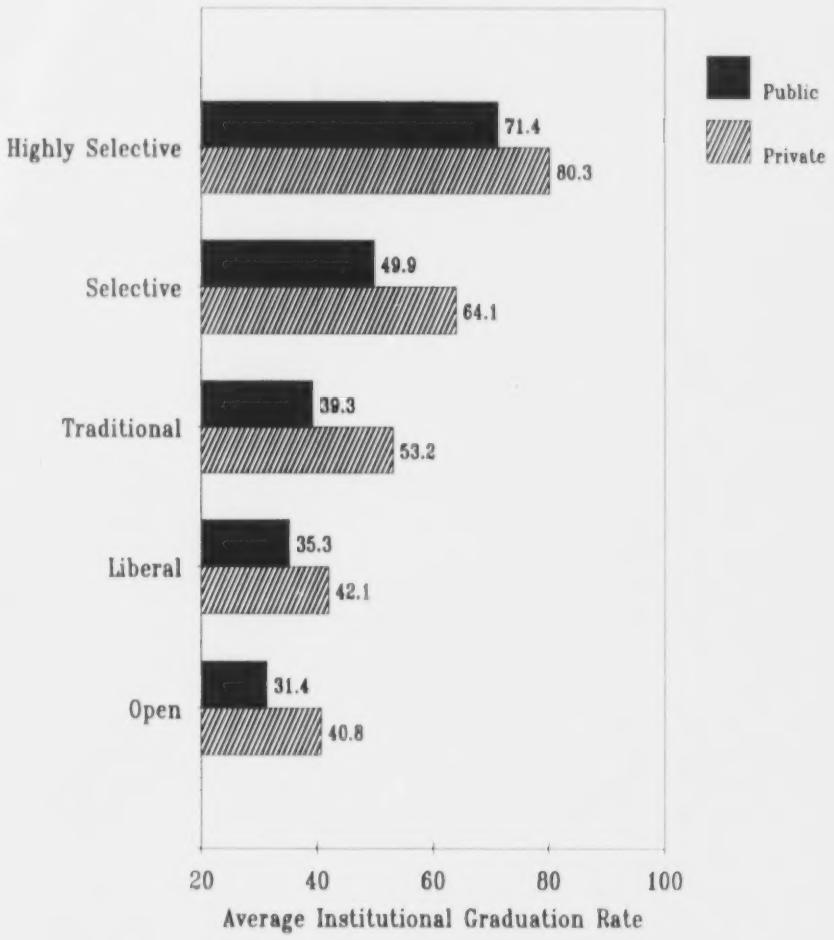
Because the ACT survey has been conducted since 1983, excellent time-series of comparable data are available to measure changes in institutional graduation rates by levels of academic selectivity. Over the ten years between 1988 and 1998, the overall institutional graduation rate declined by 3.2 percent, from 55.2 to 52.1 percent.

However, this was not true at each level of academic selectivity. At highly selective institutions, the average institutional graduation rate *increased*, by 1.5 percent. At less selective, average IGRs decreased. This decrease was greatest among the least selective colleges and universities, or those that either practice liberal admissions (some freshmen from lower half of high school class) or open admissions (the breathing test of admissions).

This, of course, has application to graduation rates for students from different family income backgrounds. The most selective institutions, which serve students from the highest family income backgrounds, had the highest IGRs to begin with and then managed to increase these high graduation rates further. Selective admissions colleges saw quite small declines in IGRs over the last decade. These institutions serve somewhat less affluent students than the most selective institutions. Thus, these data suggest that there was a small decline in graduation rates among these students.

The largest declines in IGRs over the last decade were among the least selective colleges. These practice traditional, liberal and open admissions. Declines here were in the 5.5 to 7 percent range. These declines indicate that students from the lower ranges of family income have experienced the largest declines in graduation rates between 1988 and 1998.

Institutional Graduation Rates by Academic Selectivity and Control for Institutions that Award Bachelor's Degrees 1998



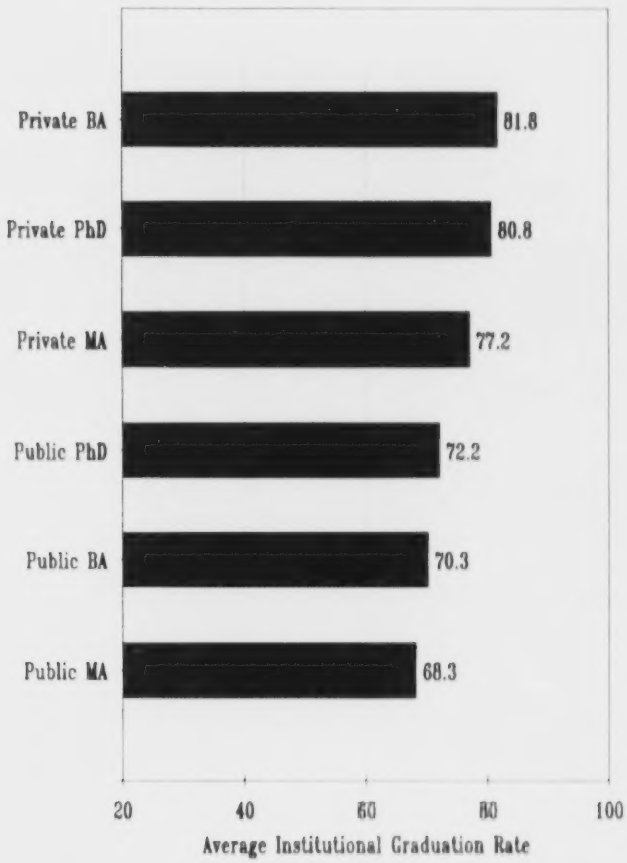
Institutional Control

The previous pattern of graduation rates varying with academic selectivity applies to both public and private colleges and universities. The most selective institutions have the highest graduation rates. The least selective have the lowest graduation rates.

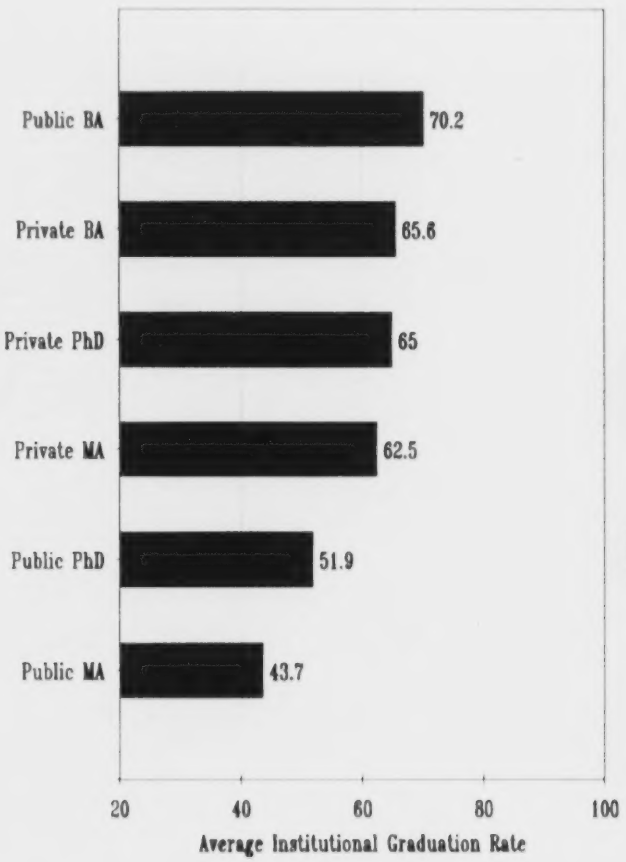
However, at each level of academic selectivity, the average IGR for private institutions was considerably greater than was the average IGR at public institutions. Among highly selective institutions, for example, the average IGR for public institutions was 71.4 percent, compared to 80.3 percent for private institutions.

Generally the differences between average public and private IGRs were greatest among selective and traditional admissions institutions. The average differences were about 14 percent for these institutions. Differences in average IGRs were less than 10 percent among highly selective, liberal and open admissions public and private institutions.

Institutional Graduation Rates for Highly Selective Institutions by Level and Control
1998



Institutional Graduation Rates for Selective Institutions by Level and Control
1998



This general pattern is illustrated within each academic selectivity grouping of public and private 4-year institutions. Here we have grouped and ranked public and private colleges and universities within the same academic selectivity level on the same chart.

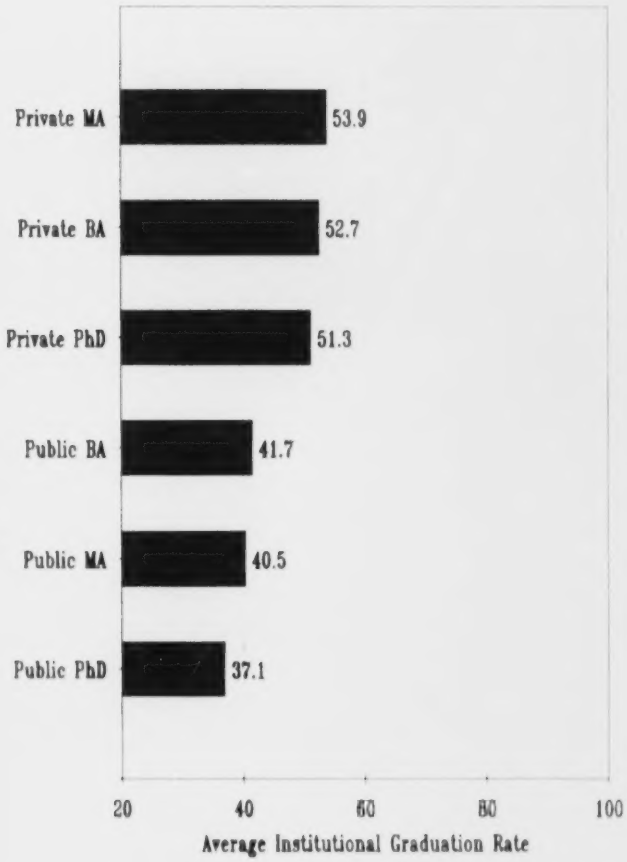
Highly selective. There were 27 public and 93 private institutions that reported their admissions criteria as highly selective. That is, most of their entering freshmen came from the top 10 percent of their high school graduating classes. Converted to test score ranges, this includes those with typical average ACT composite scores of between 27 and 31, or average SAT V + M between 1220 and 1380.

In 1998 the average IGRs for these highly selective institutions was 78.2 percent, and ranged from 68.3 percent at public institutions that award up to the master's degree, to 81.8 percent at private colleges that award the bachelor's degree. The top three were all privates, and the bottom three were all publics.

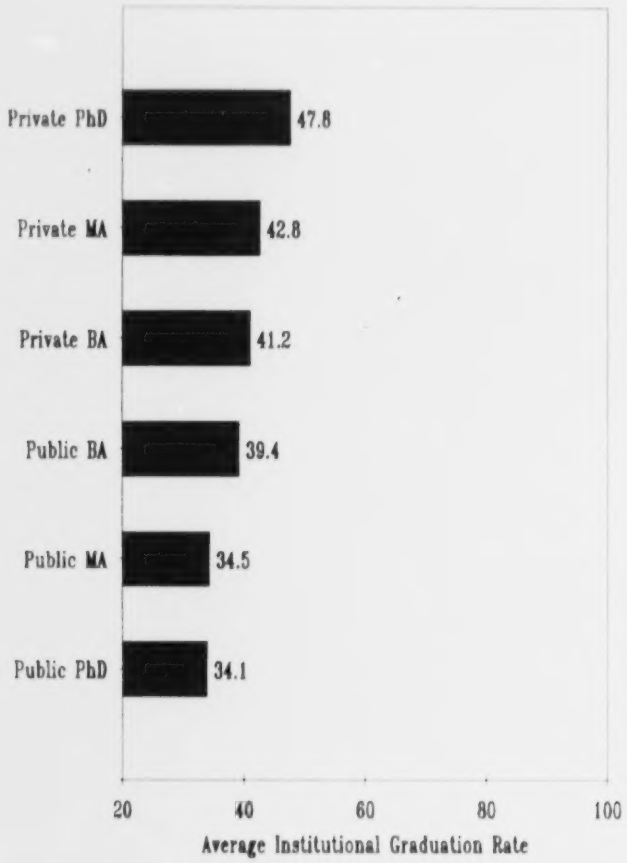
ACT reports the standard deviations (SD) for each of these average IGRS. The SDs range from 9.8 percent for highly selective private MA-awarding institutions, to 16.1 percent at public BA-awarding colleges. This indicates that there are some public institutions with higher IGRs than some private institutions report. Some privates have lower IGRS than a few public institutions. This variability suggests that students from very high high school class rank backgrounds face different graduation prospects at different institutions.

Selective. In ACT's 1998 survey there were 121 selective public and 273 private 4-year colleges and universities. A majority of their accepted freshmen graduated in the top 25 percent of their high school graduating classes. These institutions had typical average ACT composite scores of 22 to 27, and average SAT V + M scores of 1030 to 1220.

Institutional Graduation Rates for Traditional Institutions by Level and Control
1998



Institutional Graduation Rates for Liberal Institutions by Level and Control
1998



Average 5-year IGRs for selective admission colleges ranged from 43.7 percent at public MA-awarding institutions, to 70.2 percent at public BA-awarding colleges. Only among these selective admissions institutions does a public institution group--public BA colleges--break into the top three. In all other groups, private college groups hold the top three ranks.

Here too the standard deviations of the means indicate wide variation within groups. Some public institutions do better than some private institutions.

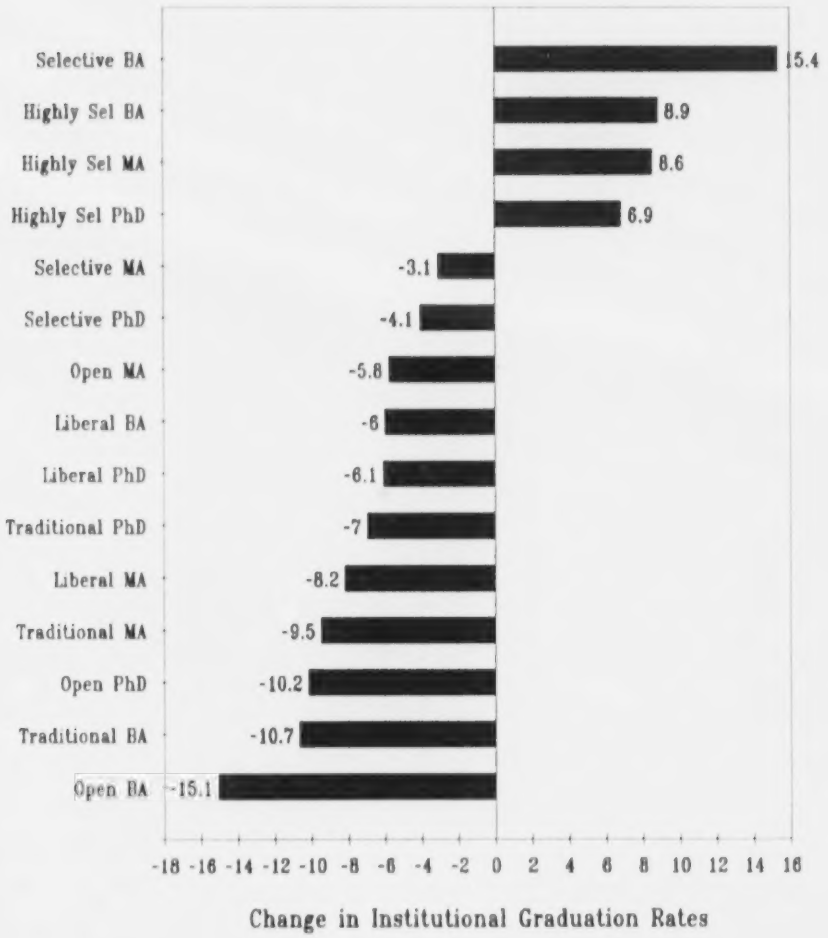
Traditional. There are 184 public and 409 private institutions that practice traditional college admissions. That is, a majority of their admitted freshmen come from the top half of their high school classes. These institutions typically have ACT composite score averages from 20 to 23, and SAT V + M averages of 950 to 1070.

The average 5-year IGR for this group was 48.9 percent. The range in average IGRs was from 37.1 percent at public doctorate-granting institutions, to 53.9 percent at private MA-awarding institutions. Standard deviations of the mean group IGRs ranged from 11.9 to 19.2 percent, thus indicating that the group means obscure considerable variation in IGRs within groups.

Liberal. There are 66 public and 221 private institutions that practice liberal admissions that participated in the ACT survey. Some of their admitted freshmen are from the lower half of their high school graduating class. These institutions typically have average ACT composite scores of 18 to 21, and/or SAT V + M scores of 870-990.

The average institutional graduation rate for this group was 40.1 percent, with institutional group averages from 34.1 percent at public doctoral universities, to 47.8 at private doctoral granting universities. Standard deviations of group averages ranged from 16.2 to 22.9 percent. These SDs

Change in Institutional Graduation Rates
in Public Institutions by Level and Selectivity
1988 to 1998



are quite large, and suggests the great differences in institutional IGRs within institutional groupings.

Open. There are 43 public and 109 private institutions that practice open admissions. They admit everyone who applies to the limits of their capacities. These institutions typically have average ACT scores of 17 to 20, and/or SAT scores of 830 to 950.

Institutional graduation rate averages ranged from 25.6 percent for public BA-awarding colleges, to 44.8 percent at private MA-awarding institutions. Here too standard deviations of group averages were large--up to 20.9 percent--and thus reflect great variation of IGRs within groups.

Changes in IGRs

Between 1988 and 1998, the average IGR for 4-year institutions declined by 3.1 percent. The decline was less in private colleges (-1.9 percent) than it was in public institutions (-5.1 percent) during this period.

However, for some groups of both public and private institutions average institutional graduation rates actually increased. In some cases--particularly in some types of public institutions--these increases were quite substantial.

In the next analysis we describe these changes in group average IGRs between 1988 and 1998. Public and private institutions are reported separately, particularly to highlight the very large differences within public institutional types and academic selectivity levels. This has particular policy significance in light of the serious funding problems faced by public higher education institutions and the general rationing of higher educational opportunity that has occurred since the late 1970s.

Public. In 1995 68.6 percent of all undergraduates enrolled in 4-year colleges and universities were enrolled in public institutions. This is down from 69.9 percent in 1990 and 69.8 percent in 1987.

The *overall* institutional graduation rate declined by 5.1 percent between 1988 and 1998 in public institutions. This pattern varies greatly across public institutions grouped by level and especially by academic selectivity. For example, in four of the 15 institutional groupings, average IGRs *increased* very substantially.

- Among selective admission bachelor's degree-awarding colleges, the average IGR increased by 15.4 percent, from 54.8 to 70.2 percent.
- Among highly selective BA-awarding colleges, the average IGR increased by 8.9 percent, from 61.4 to 70.3 percent.
- Among highly selective MA-awarding institutions, the average IGR increased by 8.6 percent, from 59.7 to 68.3 percent.
- Among highly selective PhD-awarding universities, the average IGR increased by 6.9 percent, from

65.3 to 72.2 percent.

All other groups of public institutions experienced declines in average IGRS between 1988 and 1998. Generally, declines were greatest among institutions with the lowest admissions selectivity.

Note again the high correlations between academic measures and family income. Among public institutions, average IGRs increased in those types of public institutions that typically enroll students from the highest family income backgrounds. For all other types of public institutions, the average IGRs declined, and the decline was greatest among the least selective institutions. This means that students from lowest family income backgrounds experienced the greatest declines in graduation rates from public colleges and universities.

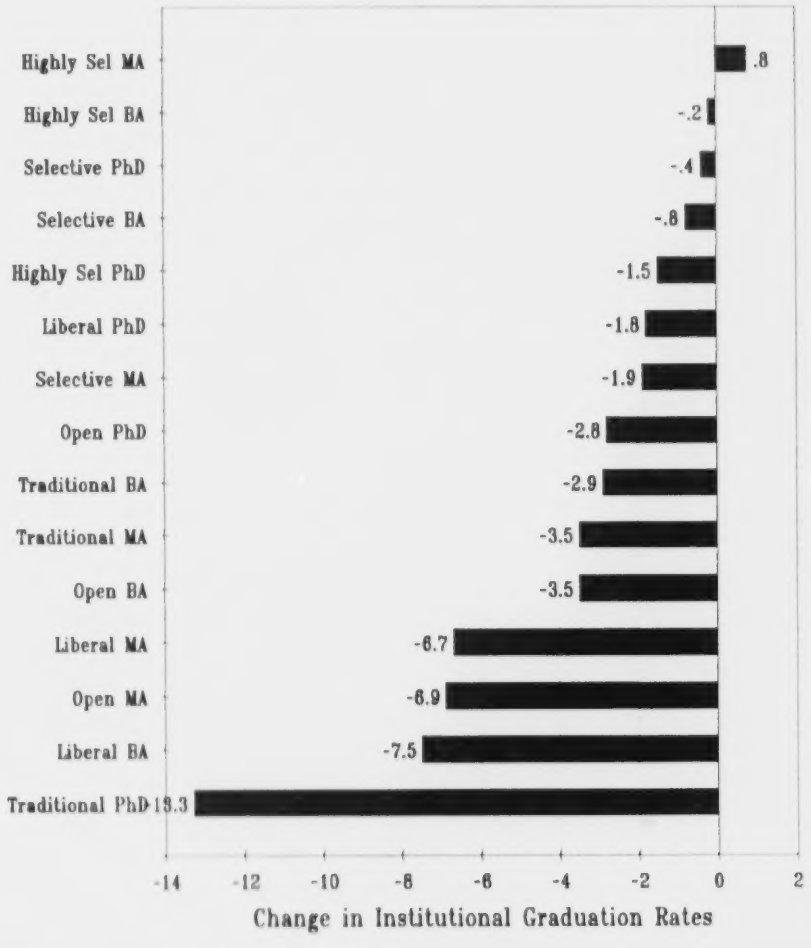
Private. Generally, changes in institutional graduation rates were much smaller in private institutions than they were in the publics between 1988 and 1998.

In only one of the 15 classifications of private institutions did average IGRs increase between 1988 and 1998. This was for highly selective MA-awarding institutions. Here, the average IGR increased by 0.8 percent, from 76.4 to 77.2 percent.

In the other 14 groups, average institutional graduation rates declined. The largest was in traditional admission PhD-awarding universities where the average IGR declined by 13.3 percent, from 64.6 to 51.3 percent. All other declines were substantially less.

Here again the correlation between academic selective and family income needs to be emphasized. IGR gains were greatest or declines least among those institutions that serve students from the highest family income backgrounds. Declines were greatest among those private institutions that served students from the lowest family income backgrounds.

Change in Institutional Graduation Rates
in Private Institutions by Level and Selectivity
1988 to 1998

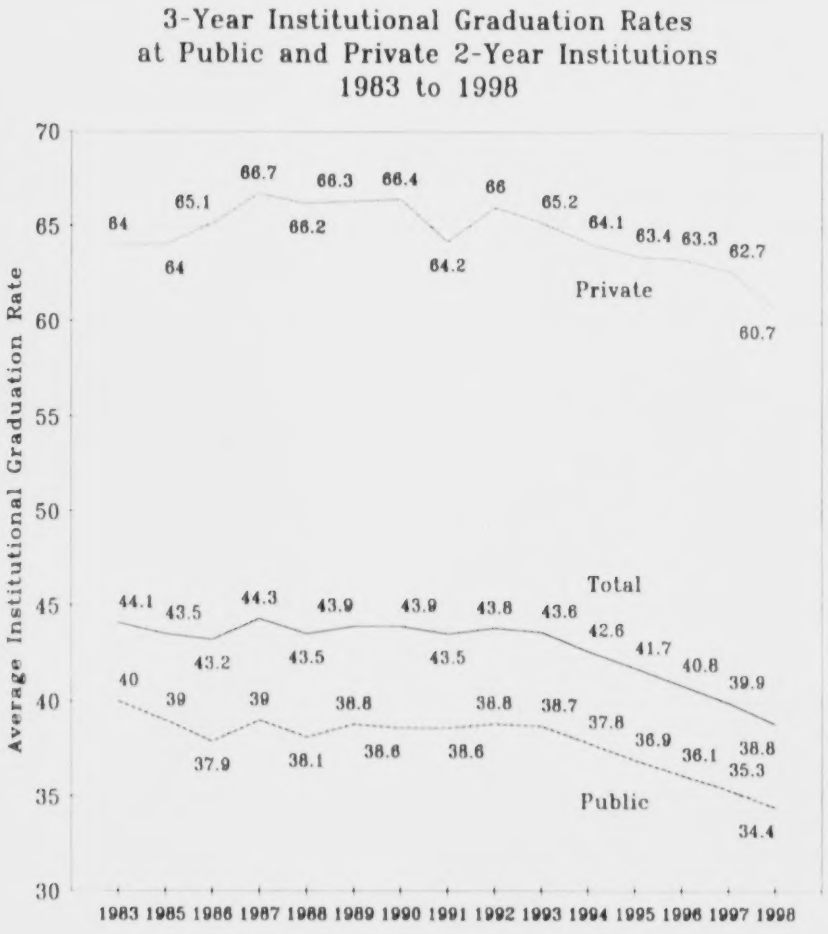


Community Colleges

The ACT survey collects data on 3-year graduation rates from 2-year colleges as well. In the 1998 survey there were 797 public and 160 private 2-year colleges. All but 179 of these institutions practice open admissions policies. The paucity of data by academic selectivity discourages analysis by academic selectivity. However, the aggregate data on IGRs at 2-year colleges provide useful information.

In 1998 the institutional graduation rate for these 2-year colleges averaged 38.8 percent. The IGR for public colleges was 34.4 percent, compared to 60.7 percent at private colleges.

The trends in IGRs for 2-year colleges differ somewhat from those of 4-year colleges. While the average IGR for



4-year colleges has declined steadily since 1983, the decline for 2-year colleges began only after about 1993. In the 2-year college data, the IGR declined only by 0.6 between 1983 and 1993, but has declined by 4.8 percent between 1993 and 1998. The decline since 1993 has been similar in private colleges (-4.5 percent) and public colleges (-4.4 percent).

Summary and Conclusions

The ACT survey of 5- and 3-year institutional graduation rates at some 2500 public and private degree-granting colleges provides a unique and valuable source on institutional graduation rates. The data from the survey have been reported since 1983 and thus provide a long time frame for examining trends, patterns and issues in student success through graduation from college. The survey is especially valuable in that it collects and reports IGR data by the selectivity criteria of college admissions.

The data reported by ACT tell many important stories. First, these data provide reference points for colleges concerned about how well they are graduating the freshmen they admit to their colleges. Given highest degree offered, control and selectivity, the ACT report provides average IGRs and standard deviations.

Second, these data indicate that IGRs are declining. They are declining in public and private, 2-year and 4-year colleges. In the aggregate, these rates are declining most in public 4-year institutions. These declines appear to have accelerated since about 1993.

Third, institutional graduation rates vary widely across institutions grouped according to their admissions selectivity criteria. IGRs are highest in the institutions that admit most of their freshmen from the top ten percent of their high school class, and lowest in the institutions that practice open admissions. Because of the high correlation between academic and family income characteristics of freshmen, this means that IGRS are highest for the students from highest family income and lowest for students from lowest income backgrounds.

Fourth, IGRs have changed for institutions practicing different admissions policies over the last decade. IGRs have actually increased for public institutions that practice highly selective admissions policies, or those that serve students from the highest family income backgrounds. IGRs have declined for less selective institutions, and declined the most for the least selective institutions. This means that graduation rates are increasing for students from highest family income backgrounds, and decreasing for students from middle family income backgrounds. They have declined the most for students from lowest income backgrounds.

Finally, the average institutional graduation rates for groups of institutions all have substantial standard deviations. This means that some institutions do a better-than-average job graduating the talent they admit, while other institutions do a worse-than-average job graduating their admitted freshmen classes. Institutions can and do provide more supportive environments for the academic success of the freshmen they enroll. The rest don't and should.

Unevenly shared responsibilities . . .

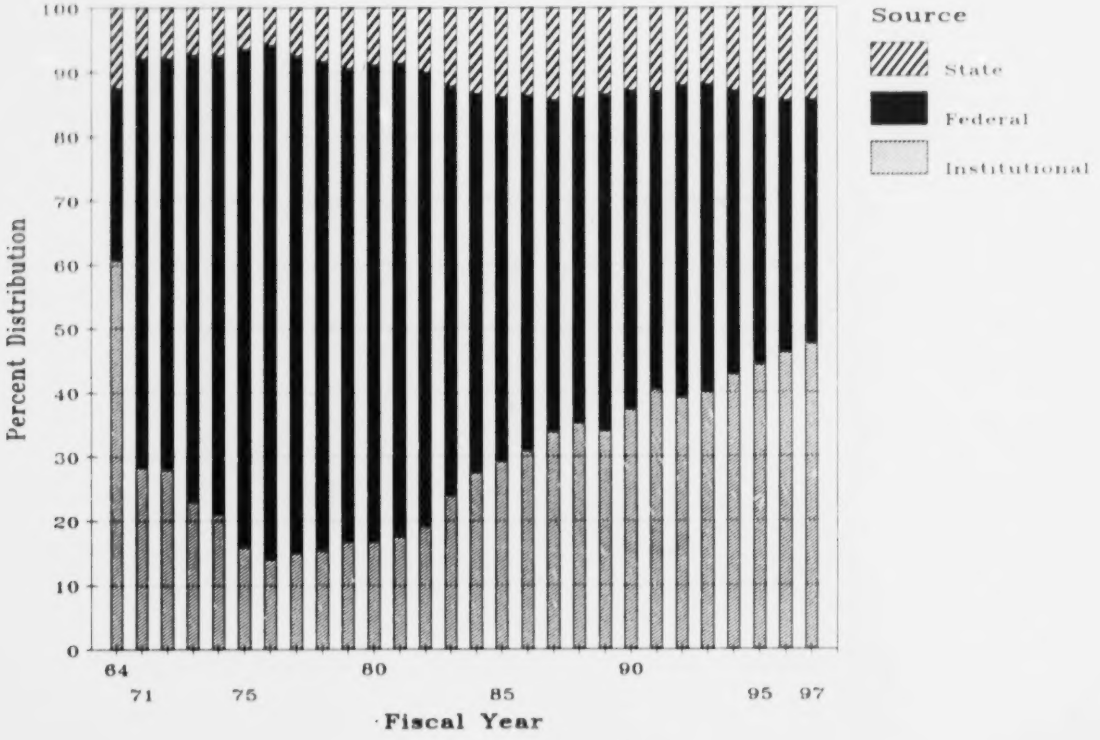
State Student Financial Aid Programs 1970 to 1997

During the 1996-97 academic year, states awarded $3.09 billion in grant aid to more than 2 million students. But generally state student financial aid programs play a relatively small role in the overall scheme of helping financially needy students to pay for their higher educations. In 1996-97, just 5.7 percent of all financial aid received by students was provided through state financial aid programs. When this is limited to gift aid (grants, scholarships, benefits, etc.), the state share rises to about 14 percent. (All this ignores, of course, the large state subsidies to public institutions that reduce the tuition charged all students to a fraction of the costs of providing educational services.)

However, the small overall role of state financial aid is not true in *each* state. A few states have built very large state-funded, need-based undergraduate grant programs.

- In four states, more undergraduate students are aided by state need-based grant programs than are aided by the federal Pell Grant program. But in 31 states, the number of state need-based grant recipients is less than half of the number of Pell Grant recipients.
- In six states, there are more state dollars in state funded need-based grant programs than are awarded to undergraduates through the federal Pell Grant Program. But in 38 states the amount of state dollars awarded to financially needy undergraduates is less than half the amount of federal dollars awarded as Pell Grants.
- In ten states, the average state need-based undergraduate grant is larger than the average federal Pell Grant. However, in 18 states, the size of the average state grant is less than half the average federal Pell Grant.
- Over the last three decades, the state commitment to financing higher education through grants targeted on financially needy students has grown substantially in many states. Other states appear not to understand that many of their own citizens face serious

Grants, Scholarships and Benefits Financial Aid by Source
FY1964, FY1971 to FY1997



financial barriers to higher education.

Other important characteristics of state student financial aid programs include:

- Thanks to the federal State Student Incentive Grant program with its matching-grant incentive, all 50 states have created need-based undergraduate grant programs.
- Across the 50 states there is wide variation in the design of financial aid programs as states weigh social, economic and political objectives, then design programs to accomplish those objectives. States are usually the laboratories of innovation where new ideas are conceived and tested.
- This variety in state approaches to student financial aid reveals a great deal about differences between states in the way they view the importance of educational opportunity after high school and state responsibility for assuring it.

Here we examine the efforts of states to help financially needy undergraduates in their own states to finance their higher educations. These efforts are measured comparatively: between states, within states over time, and with respect to the number of low-income students in each state that have demonstrated financial need and receive Pell Grants.

What this analysis finds is that only a few states have made serious programmatic and budgetary commitments to meeting the financial needs of their own needy undergraduate students. We have graded state efforts to meet the financial needs of their own undergraduate students. Five states get A grades, two more get B grades, eight states get C grades, 16 states get just D grades, and the remaining 21 states get F grades. Far too many states have done so little to help their own financially needy undergraduate students that their commitment is best described as indifference.

Moreover, in the complex world of student financial aid, sometimes government policies that have not been carefully considered before they are enacted conflict with other policies. The recently enacted federal Hope and Lifetime Learning Tax Credits will penalize those states that have made serious efforts to meet the financial needs of their citizens. Furthermore, those states that have been indifferent to these needs for their citizens will be rewarded with higher tax credit qualification rates. It is in this confusion of conflicting policy objectives that students struggle with the increasingly tough problems of paying college attendance costs.

The Data

Most of the state data used in this analysis is collected in an annual survey of state student financial aid programs that is published by the National Association of State Student Grant and Aid Programs (NASSGAP) and is currently administered by the New York State Higher Education Services Corporation. This survey has been conducted for the last 28 years by different member state agencies.

DeSalvatore, K., and Hughes, L. (March 1998.) *NASSGAP 28th Annual Survey Report, 1996-97 Academic Year, State-Funded Scholarship/Grant Programs for Students to Attend Postsecondary Education Institutions.* National Association of State Student Grant and Aid Programs. Albany, NY: New York State Higher Education Services Corporation. Copies are available for $20 by writing to HESC, 99 Washington Avenue, Room 1438, Albany, NY, 12255, Attention: NASSGAP.

In addition, we have used the Grapevine data on state tax fund appropriations for higher education that is collected and reported by Illinois State University. These data are available at the following website:
http://coe.ilstu.edu/grapevine/

For the purpose of identifying the number of financially very-needy undergraduate students in each state, we have also used data on Pell Grant recipients by state of residence from the 1996-97 federal Pell Grant *End-of-Year Report*. The federal Pell Grant program reports the numbers of financially very-needy undergraduates resident students from each state that are enrolled in postsecondary education under the same uniform federal criteria for each state.

National Computer Systems. (1998.) *Pell Grant End-of-Year Report, 1996-97.* Washington, DC: U.S. Department of Education. Copies are available free from Steve Carter at the U.S. Department of Education at (202) 708-4893, or by e-mail at steve_carter@ed.gov.

Note that Pell Grant recipients are not *all* of the needy undergraduate students from each state--just all of those from lowest family income backgrounds, or roughly the bottom quartile of family income for the country. Other students from higher family income backgrounds may also be financially needy, but not qualify for federal Pell Grants because their Expected Family Contribution from federal need analysis was greater than that permitted for the Pell Grant program.

State Student Aid Programs

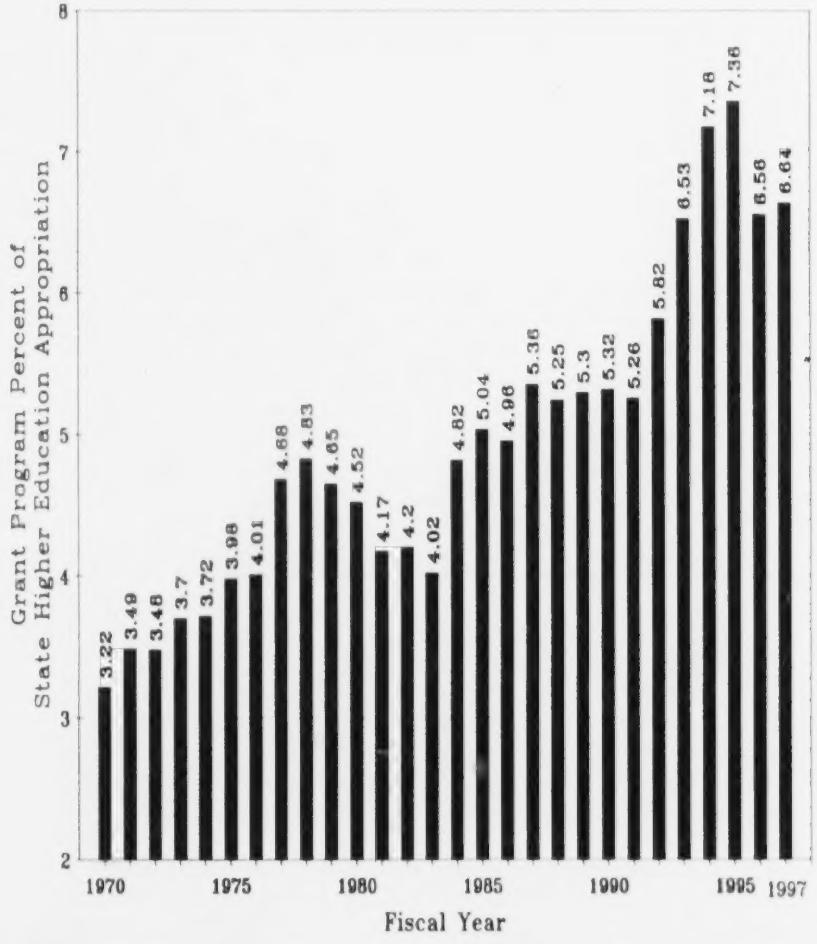
All 50 states plus the District of Columbia and Puerto Rico have state-

funded student financial aid programs. In large part, this 100 percent rate results from the federal State Student Incentive Grant program, created in 1972. SSIG provides matching federal funds to states that create and maintain state programs of need-based financial aid for their own undergraduate students.

In addition to these programs, states provide a variety of other financial aid programs and services for their own citizens including:

- The administration of federal educational loan programs as guarantors for banks and other lenders, secondary loan markets and default collections,
- The administration of other federal student financial aid programs including State Student Incentive Grants, Robert Byrd Honors Scholarship and Paul Douglas Teacher Scholarships,
- State-funded work-study and internship programs,
- State-funded merit-based grant programs,
- State-funded benefit programs for survivors of policemen, firemen, soldiers (POW, MIA, KIA) and other public employees who have died in state or national service,
- State-funded programs designed to meet trained-manpower needs in certain fields (technology, teaching, National Guard, nursing, speech/language pathology, osteopathic, ROTC, wildlife, psychology, etc.),
- State-funded programs to assist minorities,
- State pre-paid tuition and college savings programs,
- State-funded loan-forgiveness programs for specified purposes (teaching, health service, child development, librarian, occupational/physical therapy, etc.),
- State funded interstate student exchange and tuition-reciprocity agreements, and

State Grant Program Dollars as a Proportion of State Appropriations for Higher Education FY1970 to FY1997



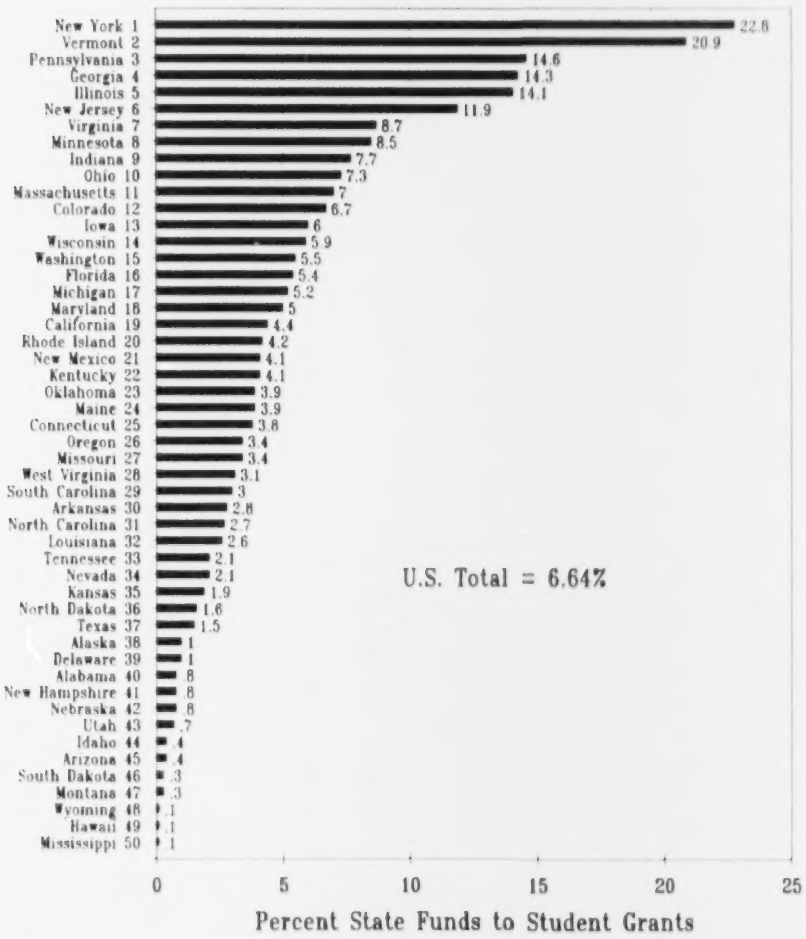
- State outreach efforts through information dissemination, intervention, tutoring, mentoring, counseling and advising services designed to prepare students for postsecondary education when that time arrives.

The range and variety of state financial-aid programs and services provided across the states reflects the range and variety of perceptions of needs to be met with state programs. In important respects, states are experimental laboratories for innovation in services and programs that help students prepare for and succeed in postsecondary education.

State Funding for Financial Aid

State appropriations for state student grant and other financial aid programs have grown substantially over the last several decades. In FY1970, 3.2 percent of state fund appropriations for higher education were targeted on students through grant programs. This proportion grew to 4.5 percent by FY1980, 5.3 percent by FY1990, to a peak of 7.4 percent in FY1995. For the last two fiscal years--FY1996 and

State Grant Program Appropriations as a Proportion of Each State's Higher Education Appropriations FY1997



1997--this proportion has hovered around 6.6 percent.

Across the states this proportion varies widely. In **Wyoming**, **Hawaii** and **Mississippi**, state funding for grant programs was about 0.1 percent of state higher education funding. At the other extreme, **New York** and **Vermont** chose to spend more than 20 percent of their state higher education funding on grants to students. Four additional states spend more than ten percent of their higher education funds on grants targeted on students.

In the balance of this analysis, we focus on state-funded grant programs for undergraduate students. These are of two main types: need-based and merit-based.

State Need-Based Grant Programs

In the 1996-97 academic year, states awarded $2.579 billion in need-based grants to 1.734 million undergraduate students. These programs existed in all 50 states plus the District of Columbia and Puerto Rico. By comparison, the federal government awarded $5.780 billion in Pell Grants to 3.666 million financially needy, low-income undergraduate students. We describe the state programs by comparison to the federally defined financially needy Pell Grant recipient population of undergraduate students.

Coverage. During the 1996-97 academic award year there were 1.734 million state-funded need-based undergraduate grant recipients compared to 3.66 million Pell Grant recipients. State grants were awarded to less than half the number of undergraduates that received federal Pell Grants.

However, in four states more needy undergraduates received state grants than received federal Pell grants. In **Vermont** for example, 13,514 Vermonters received state grants while got 8,518 Pell Grants. The other states where more students received state than federal grants were **Illinois, Pennsylvania** and **Minnesota**, with approximately equal numbers in **Wisconsin**. In five additional states, the number of state grant recipients was more than three-quarters of the number of Pell Grant recipients.

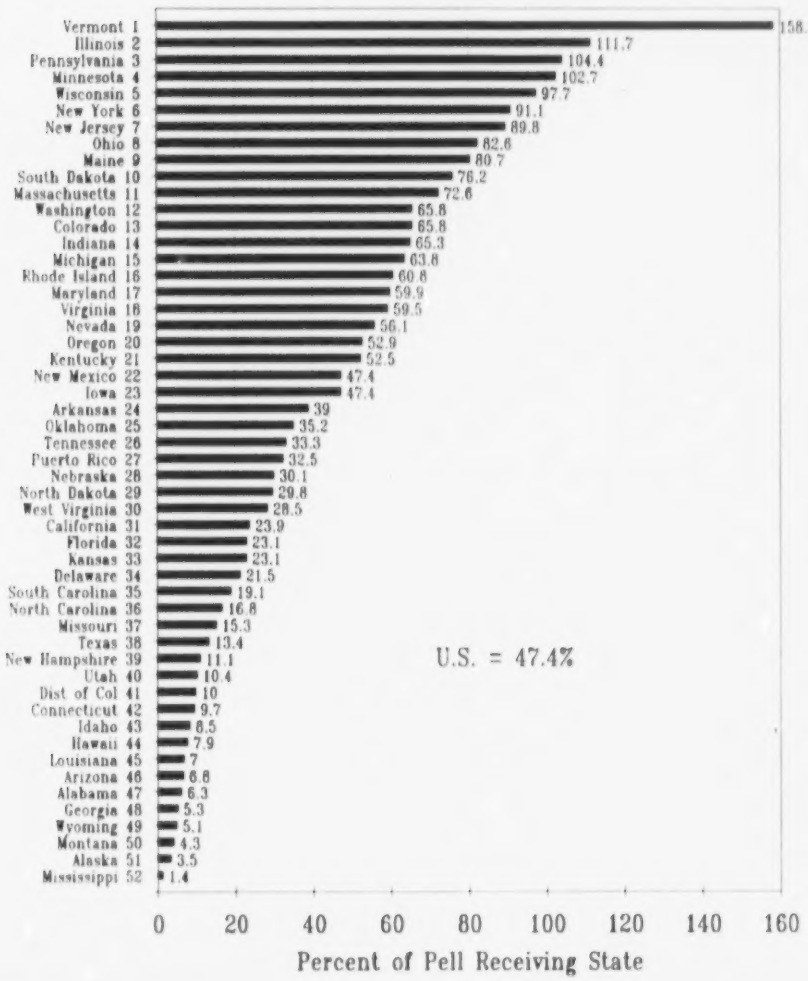
At the other extreme, in eleven states the number of state-aided needy undergraduates was less than a paltry 10 percent of the number of Pell Grant recipients. The most extreme case was **Mississippi** where the state made grants to just 717 needy undergraduates, while the federal Pell Grant program made grants to 50,918 students. The other states where less than 10 percent of the Pell Grant population also received state need-based grants were **Alaska, Montana, Wyoming, Georgia, Alabama, Arizona, Louisiana, Hawaii, Idaho** and **Connecticut**. Eleven additional states provided state need-based grant assistance to less than a quarter of their Pell recipient students.

Dollars awarded. States were all over the map in their financial support for

Total Grant Aid Awarded by State Grant Programs, 1996-97
Dollar amounts in Millions

State	Need-Based Aid		Non-Need-Based Aid		Total Grants
	Undergrad	Graduate	Undergrad	Graduate	
Alabama	$1.950	$0.034	$6.213		$8.196
Alaska	0.213			1.503	1.716
Arizona	2.748	0.003			2.751
Arkansas	12.569		1.156		13.724
California	257.544	2.116			259.659
Colorado	28.236	1.012	11.210	1.143	41.600
Connecticut	20.297		0.002		20.299
Delaware	0.959	0.275	0.224		1.458
Dist of Col	0.939	0.068			1.007
Florida	33.854	0.006	75.194	0.675	109.729
Georgia	2.165		183.702		185.867
Hawaii	0.379				0.379
Idaho	0.714	0.010	0.263		0.987
Illinois	272.898		26.095		298.993
Indiana	77.834		1.315		79.149
Iowa	41.938		0.473		42.412
Kansas	10.171		0.064		10.235
Kentucky	28.902				28.902
Louisiana	7.172		9.533		16.705
Maine	6.636			0.400	7.036
Maryland	36.264	0.370	5.924	0.064	42.622
Massachusetts	57.413		0.064		57.477
Michigan	85.872	5.116			90.988
Minnesota	92.707		0.039		92.746
Mississippi	0.540		0.050	0.024	0.614
Missouri	13.681		12.973		26.654
Montana	0.314				0.314
Nebraska	3.211				3.211
Nevada	3.180	1.017	0.527	0.176	4.901
New Hampshire	0.669		0.010		0.679
New Jersey	152.458		8.575		161.034
New Mexico	14.289	0.590	5.276		20.156
New York	629.940	3.471	3.962	2.665	640.038
North Carolina	17.435	1.430	28.813	2.910	50.588
North Dakota	2.202		0.252		2.454
Ohio	86.770		41.882	0.369	129.021
Oklahoma	14.558	1.959	7.488	0.344	24.349
Oregon	16.241				16.241
Pennsylvania	240.459		0.837	0.040	241.336
Puerto Rico	23.824				23.824
Rhode Island	5.699				5.699
South Carolina	21.540				21.540
South Dakota	0.346				0.346
Tennessee	18.652		0.712	0.050	19.414
Texas	42.761	4.788			47.549
Utah	22.170			0.966	3.136
Vermont	11.309	0.148	0.009		11.466
Virginia	59.025		21.039	13.293	93.644
Washington	58.149	0.014	1.482		59.644
West Virginia	10.257				10.527
Wisconsin	49.008		3.160	5.178	57.346
Wyoming	0.160				0.160
TOTALS	$2,579.494	$22.427	$458.518	$229.799	$3,090.239

State Need-Based Grant Coverage of Pell Recipients 1996-97



needy undergraduate students. Six states provided more state dollars through need-based grants to their undergraduates than the federal government provided through the Pell Grant program. In **Illinois** the state provided $273 million in need-based grant aid while the Pell Grant program provided $217 million. The other states that provided more state dollars than were provided through the Pell Grant program were **New Jersey, New York, Pennsylvania** and **Minnesota**. **Vermont** provided state grant dollars nearly identical to the amount of Pell Grant dollars received.

At the other end of the scale, 16 states provided less than 10 percent of the dollars provided through Pell Grants. **Mississippi**, for example, provided $540,000 in state funds while the Pell Grant program provided $85,865,000 to needy Mississippi undergraduate students. Other states providing less than 10 percent of the Pell Grant dollars were **Montana, Wyoming, Georgia, South Dakota, Alabama, Idaho, Alaska, Hawaii, Arizona, New Hampshire, Utah, Louisiana, Puerto Rico, Nebraska,** and the **District of Columbia**. An additional eleven states provided less than a quarter of what the federal government provided in need-based grants to undergraduate students.

Average grant size. The average state and federal need-based grants to undergraduates are closely comparable: $1513 for the state and $1576 for the Pell. However, states were again all over the map.

At one extreme **Connecticut**'s average grant was $8670, compared to an average Pell Grant of $1445 received by Connecticut resident undergraduate students. Nine other states provided average state grants that were larger than the average Pell Grant in their state. These states were **South Carolina, California, New Jersey, Iowa, New York, Illinois, Indiana, Pennsylvania** and **Minnesota**. Eleven other states provided average state grants that were more than three-quarters of the average Pell Grant.

But 8 states provided average state grants that were less than a third the size of the average Pell Grant received by needy undergraduate residents of those states. **South Dakota**'s average state grant was $305 compared to the average Pell Grant of $1545 received by needy South Dakota undergraduate students. The other seven states with puny average state grant awards were **Puerto Rico, Idaho, Wyoming, Montana, Alabama, Nebraska and Georgia.**

Grading state performance. The range in state efforts to assist financially-needy state resident undergraduate students is extraordinary. Some states are seriously committed to meeting the financial needs of their own students. Most states are not.

This difference between states invites a grading of state performance. The grading is all the more important because all 50 states have reduced their share of state resources appropriated for higher education over

the last 18 years, thereby requiring public higher education institutions to raise tuition charges to students to offset the loss of state financial support. Few states have taken any serious financial responsibility for covering these tuition increases for their own students who cannot afford them.

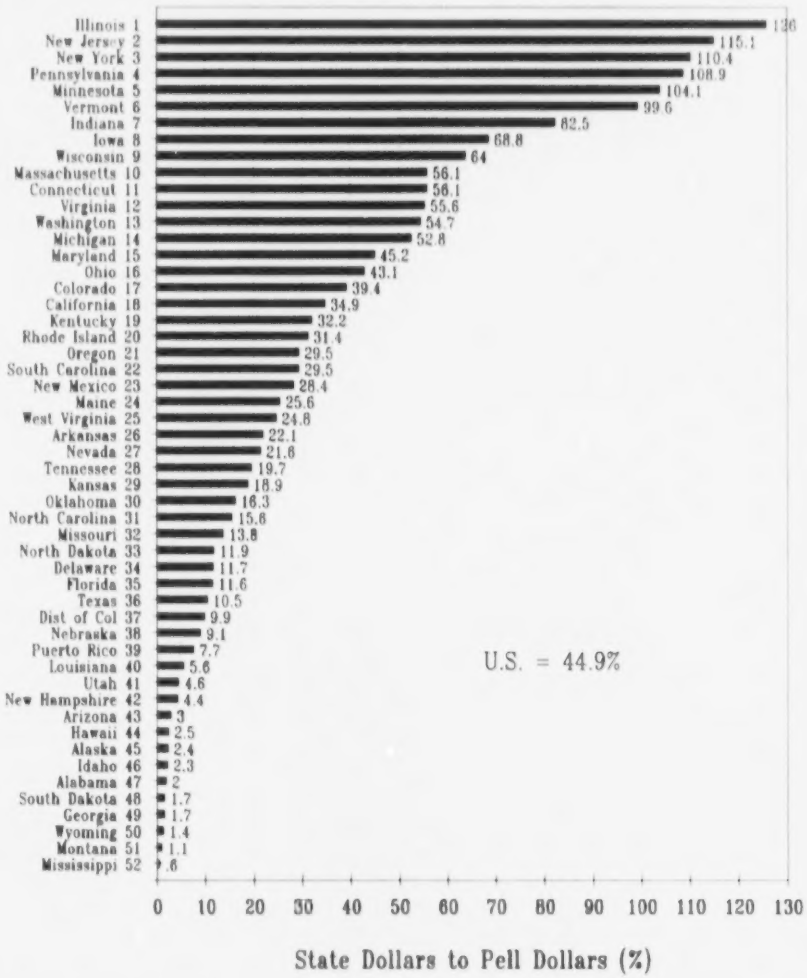
We grade on a curve as follows. State efforts are compared to federal efforts to assist needy undergraduate students on three measures: coverage, dollars awarded, and average grant. The curve and corresponding grades on each measure are:

A	4.00	100.0% or more
A-	3.75	95.0-99.9%
B+	3.25	90.0-94.9%
B	3.00	85.0-89.9%
B-	2.75	80.0-84.9%
C+	2.25	75.0-79.9%
C	2.00	70.0-74.9%
C-	1.75	65.0-69.9%
D+	1.25	60.0-64.9%
D	1.00	55.0-59.9%
D-	0.75	50.0-54.9%
F	0.00	Less than 50.0%

On this grading scale, only five states get A or A- grades. These states are **Illinois, Minnesota, Pennsylvania, New Jersey** and **New York.** The first three states served their financially needy undergraduate students at rates higher than did the federal Pell Grant program on all three grading measures: coverage, dollars awarded and average grant size. New Jersey and New York failed only on the coverage measure by providing fewer state grants than were awarded through the Pell Grant program.

Only two states get grades of B or B-: **Vermont** and **Indiana**. Seven states get C grades. Sixteen states earned D grades. The remaining 21 states received grades of F. Two-thirds of the states do not receive credit for trying to assist their own financially needy undergraduate students through targeted assistance.

State Need-Based Grant Dollars Compared to Federal Pell Grant Dollars, 1996-97



State Non-Need-Based Grant Programs

In 1996-97, 33 states offered some form of non-need based financial aid to their undergraduates. Generally these are merit-based grants where eligibility, such as in Georgia's Hope Scholarship program, is based not on financial need but instead is based on academic measures such high school grades or college admission test scores.

State financial aid not based on financial need has a distinct regional flavor. Fifty-five percent of all non-need-based, state-funded student aid is awarded by just two states: **Georgia** and **Florida**. Until the last few years, Florida had always led the states in its focus on merit-based student financial aid--despite an enacted policy statement that need-based financial aid was to be the state's highest financial aid funding priority. However, following enactment of Georgia's Hope Scholarship program in 1993-94, and generous funding from the Georgia lottery, Florida has been displaced by its neighbor.

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Grades for States on State Undergraduate Need-Based Grant Efforts
1996-97 Award Year

Rank	State	Coverage	Dollars	Average Grant	Average Score	Grade
1	Illinois	4.00	4.00	4.00	4.00	A
1	Minnesota	4.00	4.00	4.00	4.00	A
1	Pennsylvania	4.00	4.00	4.00	4.00	A
4	New York	3.25	4.00	4.00	3.75	A-
4	New Jersey	3.00	4.00	4.00	3.67	A-
6	Vermont	4.00	3.75	1.00	2.92	B
7	Indiana	1.75	2.75	4.00	2.83	B-
8	Wisconsin	3.75	1.25	1.75	2.25	C+
9	Iowa	0.00	1.75	4.00	1.92	C
10	Rhode Island	1.25	0.00	4.00	1.75	C-
10	Washington	1.75	0.75	2.75	1.75	C-
10	Connecticut	0.00	1.00	4.00	1.67	C-
10	Massachusetts	2.00	1.00	2.00	1.67	C-
10	Michigan	1.25	0.75	2.75	1.58	C-
10	Virginia	1.00	1.00	2.75	1.58	C-
16	California	0.00	0.00	4.00	1.33	D+
16	Ohio	2.75	0.00	1.25	1.33	D+
16	South Carolina	0.00	0.00	4.00	1.33	D+
19	Maryland	1.00	0.00	2.25	1.08	D
19	Alaska	0.00	0.00	3.00	1.00	D
19	North Carolina	0.00	0.00	3.00	1.00	D
19	Colorado	1.75	0.00	1.00	0.92	D
19	Maine	2.75	0.00	0.00	0.92	D
19	Missouri	0.00	0.00	2.75	0.92	D
19	Texas	0.00	0.00	2.75	0.92	D
19	West Virginia	0.00	0.00	2.75	0.92	D
27	Kansas	0.00	0.00	2.25	0.75	D-
27	Louisiana	0.00	0.00	2.25	0.75	D-
27	South Dakota	2.25	0.00	0.00	0.75	D-
27	Kentucky	0.75	0.00	1.00	0.58	D-
27	Oregon	0.75	0.00	1.00	0.58	D-
32	New Mexico	0.00	0.00	1.25	0.42	F
32	Arkansas	0.00	0.00	1.00	0.33	F
32	Dist of Columbia	0.00	0.00	1.00	0.33	F
32	Nevada	1.00	0.00	0.00	0.33	F
32	Delaware	0.00	0.00	0.75	0.25	F
32	Florida	0.00	0.00	0.75	0.25	F
32	Tennessee	0.00	0.00	0.75	0.25	F
32	Alabama	0.00	0.00	0.00	0.00	F
32	Arizona	0.00	0.00	0.00	0.00	F
32	Georgia	0.00	0.00	0.00	0.00	F
32	Hawaii	0.00	0.00	0.00	0.00	F
32	Idaho	0.00	0.00	0.00	0.00	F
32	Mississippi	0.00	0.00	0.00	0.00	F
32	Montana	0.00	0.00	0.00	0.00	F
32	Nebraska	0.00	0.00	0.00	0.00	F
32	New Hampshire	0.00	0.00	0.00	0.00	F
32	North Dakota	0.00	0.00	0.00	0.00	F
32	Oklahoma	0.00	0.00	0.00	0.00	F
32	Puerto Rico	0.00	0.00	0.00	0.00	F
32	Utah	0.00	0.00	0.00	0.00	F
32	Wyoming	0.00	0.00	0.00	0.00	F

An additional 22 percent of all non-need-based state student financial aid is awarded by other southern states. Thus, only 23 percent of all non-need-based student aid is awarded by states outside of the South.

The attention given in the press to merit-based student aid programs might suggest that states were replacing need-based grant programs with merit-based grants. At least through 1996-97, this does not appear to be true. Excluding Georgia, the share of state undergraduate grant program dollars awarded without regard to financial need has fluctuated between 9.0 and 11.6 percent between FY1982 and FY1997. In FY1982 9.0 percent of all state grants to undergraduates was not need-based. Excluding Georgia, by FY1997 this share stood at 9.6 percent.

Thus, among the states non-need-based student financial aid is not yet a fad. New programs, such as in New Mexico, or changed state focus, such as in Louisiana, may change this eventually. But most states have looked at Georgia's program and chosen not to adopt it for their own state programs. Generally, non-need-based undergraduate student aid programs remain a marginal financial aid service in most states.

Summary and Conclusions

The major conclusion from this analysis of state student financial aid programs is that states vary widely in their financial commitments to assisting financially needy students to finance their higher educations. A handful of states are seriously committed insofar as they provide substantial sums of money to substantial shares of their financially needy undergraduate state residents. Another handful have tried, and the rest can only be described as indifferent if it costs the state any money. In far too many states,

responsibility for helping financially needy students pay their college attendance costs has been left to the federal government.

Another conclusion is that states have been and continue to be fertile grounds for innovation and experimentation. States provide a very wide range of financial aid programs and services to students.

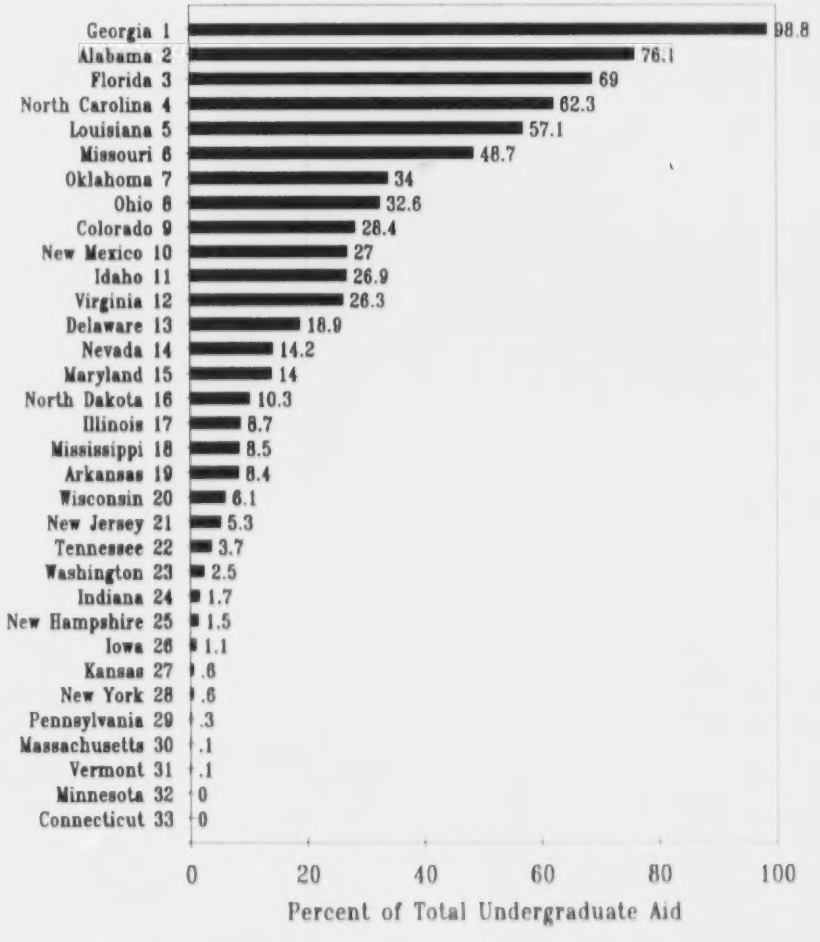
- Some states enacted need-based grant programs well before the federal government created the Educational Opportunity Grant program in 1965. **California** created its Cal Grant A program in 1956, **Illinois** created its Monetary award program in 1958, **New York** inaugurated its Tuition Assistance Program in 1962.
- Several states created survivor benefit programs in the early 1940s during World War II.
- College savings programs have been enacted in most states well before Congress enacted federal IRAs to help families save for college.
- Several states have created child care grant programs.
- Several states have directly addressed minority opportunity through incentive grant programs.

States play many roles in the complex financial aid system. Many act as agents of the federal government in the administration of federal student aid programs. Most have set up programs to help middle-income families save for college. Many states participate in programs to help their students cross state lines to find the educational opportunities they seek. Several states have created large outreach programs to encourage and assist students in secondary education prepare for college. The 50 states provide many opportunities to satisfy the political instinct to create new programs.

There remains, however, a basic dilemma for the political process--at both the state and federal levels. Greatest financial need to pay college attendance costs is concentrated among those who vote at the lowest rate. Those who vote at the highest rates--the affluent--are least likely to demonstrate financial need. The public poll numbers that reflect a very legitimate (and state-created) concern about the escalating real costs of college attendance seem to call for a political response. One response to this dilemma is to provide financial aid to those who vote at the highest rate, regardless of these voters' financial needs for such assistance.

The two major recent examples of political responses to this dilemma are Georgia's Hope Scholarship program and President Clinton's Hope and Lifetime Learning tax credits. Both programs are not need-based, both exclude lowest income students and their families, both are targeted on higher-income voters, and both are proffered by Southerners. At least in these two cases, the major initiatives are coming from southerners where student financial aid has a quite different focus and purpose than that

Non-Need Based Aid for Undergraduates for States with Non-Need Based Student Aid 1996-97



employed in federal and most state student financial aid policies.

This confusing new federal initiative poses additional problems--disincentives--for states. If states have created and funded state need-based grant programs to help needy families pay college tuition costs, families that receive state grants will not qualify for the federal tax credit. This muddled design feature of President Clinton's Hope and Lifetime Learning Tax Credits will penalize states that have sought to help needy students in their states, and reward the remaining states that have been indifferent to their own needy students. States may consider either raising tuition and fee charges to the $1500 value of the federal tax credit, or reduce their commitment to helping their needy family pay tuition and fee costs to increase federal tax credit qualification rates and keep federal tax cut benefits in their states. States remain faced with the escalating educational attainment needs of their economies. More citizens need more and continuing higher education. Economic growth requires greater labor force productivity, and labor force productivity is increasingly determined by the educational attainment of the labor force. Moreover, those who lack the education they need often incur substantial social costs, e.g. corrections, welfare, lost productivity, and bad environments at home, in communities and in schools for their children.

All states that seek a prosperous future face the economic imperative of substantially broadening opportunities for postsecondary education and training for their own citizens. The state responsibilities for providing opportunity--outreach, capacity, quality and affordability--all cost money. All states have reduced their state investment in higher education over the last 18 years, raising tuition charges to students in response. Only a few states, however, appear to be responding to the challenge to broaden educational opportunities by keeping financial barriers down for their own financially needy students.

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Number 74 | Oskaloosa, Iowa | August 1998

Freshman-to-Sophomore Persistence Rates by Institutional Control, Academic Selectivity and Degree Level 1983 to 1998

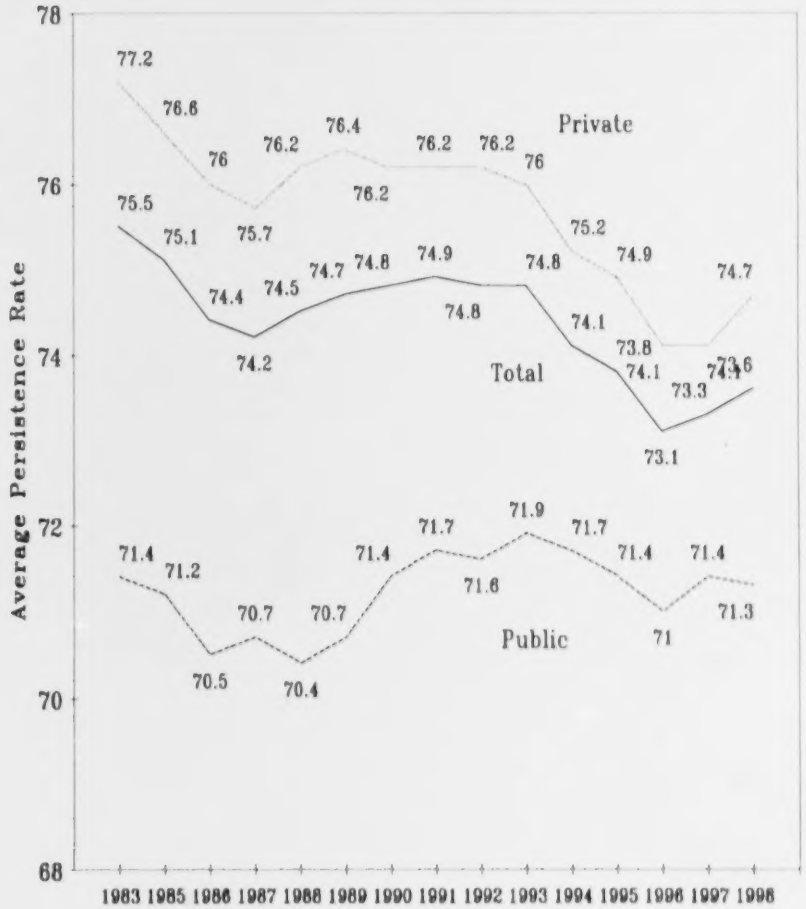
The long and grueling path to college graduation has many hurdles for students to overcome. The first is high school graduation, where about 14 percent dropout. The second hurdle is college continuation after high school, where about 33 percent of those still on the path stumble and fail. The third hurdle is college persistence, where about 24 percent of those who have entered 4-year colleges do not enroll for their sophomore year. For freshmen entering 2-year colleges, about 45 percent do not enroll for their sophomore year of college.

The freshman-to-sophomore year transition must occur if a student is to get a college degree. Some students will transfer to another institution, and some will suspend their academic journey temporarily, to return another day. But for most students, the key to graduation is to return after their freshman year to continue their sophomore year of collegiate study where they first enrolled.

In this analysis we examine trends and patterns of freshman-to-sophomore persistence behaviors. The unit of analysis is the institution. The measure of analysis is the rate at which enrolled freshman cohorts show up for their second year of college. Trend analysis spans the years between 1983 and 1998. Pattern analysis examines and compares persistence behaviors of freshman cohorts at public and private colleges and universities sorted according to the admissions selectivity criteria.

The results of this analysis find important trends and patterns.

Freshman-to-Sophomore Persistence Rates at Public and Private 4-Year Institutions 1983 to 1998



- Between 1983 and 1998, overall persistence rates are drifting downward. This decline is greater in private colleges than in publics.

- However, quite consistently persistence rates in private colleges are greater than those in public institutions.
- Persistence rates vary directly with academic selectivity of institutional admissions criteria. Rates are highest at the most selective institutions, and lowest at those institutions that practice open admissions.
- Between 1988 and 1998, persistence rates have been stable at highly selective institutions, and generally declined the most at least selective institutions.
- In a few types of institutions, notably public institutions, persistence rates actually improved over the last decade.
- As a result of these trends, the historic advantage of private college student persistence over publics has narrowed substantially, particularly in 4-year institutions.

These and other important findings have been gleaned from a most valuable annual institutional survey conducted by ACT. We have taken the data reported from that survey and examined it to reach the findings reported here. The data are ACT's--the interpretations are ours.

The Data

Each year ACT conducts a massive survey of American higher education to gather a wide variety of data through the *Institutional Data Questionnaire (IDQ)*. These data are used in ACT's core business--the ACT Assessment, to assist students in the transition from high school to college. These data are also published in ACT's annual *College Planning/ Search Book*.

A portion of the data collected in the IDQ are tabulated and reported in a separate annual data report, the ACT *National Dropout and Graduation Rates* report. A summary of this report is available on ACT's website:
http://www.act.org
The most recent year's report, which offers more detail, is available from ACT by contacting Dr. Wes Habley:
habley@act.org

In the 1998 report, persistence rate data are reported for 2545 colleges and universities as follows:

Degree Level	Public	Private
2-year	764	156
BA/BS	66	492
MA/1st Professional	234	477
PhD	200	156
Totals	1264	1281

ACT's IDQ asks institutions about their freshmen persistence by asking what proportion of last fall's freshmen class were enrolled this fall. Admissions criteria were determined by institutional response to a question on freshman admissions policy:

- *Highly selective:* majority of freshmen in top 10% of high school graduating class
- *Selective:* majority of accepted freshmen in top 25% of high school graduating class
- *Traditional:* majority of accepted freshmen in top 50% of high school graduating class
- *Liberal:* some freshmen from lower half of high school graduating class
- *Open:* all high school graduates admitted, to limit of capacity

ACT provides typical admissions test score intervals for the above admissions classifications as follows:

	ACT	SAT
Highly selective	27-31	1220-1380
Selective	22-27	1030-1220
Traditional	20-23	950-1070
Liberal	18-21	870-990
Open	17-20	830-950

ACT reports the data collected from institutions in terms of dropout rates. We have converted these data to persistence rates by subtracting the reported dropout rate from one.

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Permission is granted to make copies from this research letter providing copies are not sold and the source is identified. Copies of research letter charts, including transparencies, are available to subscribers in larger sizes at cost. Call for assistance.

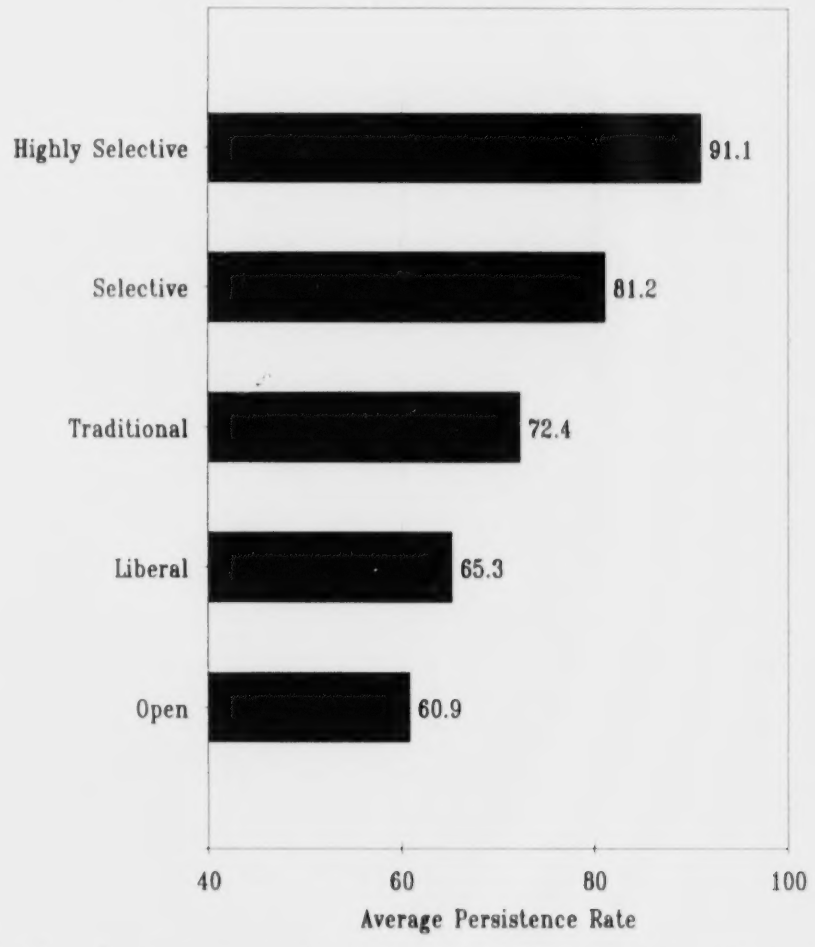
The reader who is interested in this issue from the perspective of a particular 4-year college or university may want to read our analysis of freshman-to-sophomore persistence rates at 1063 public and private 4-year colleges and universities, published in the June 1997 issue of OPPORTUNITY (#60). In this study we developed of model of predicted student persistence behavior for institutions based SAT scores, part-time enrollments, living on-campus, and Catholic control. We then ranked all 1063 institutions according to the difference between their actual and predicted persistence rates. Given these controls, some institutions were supporting persistence far more successfully than were other institutions. Copies of this issue of OPPORTUNITY are available to subscribers free upon request.

Persistence Rates in 4-Year Colleges

In 1998 the average freshman-to-sophomore persistence rate was 66.9 percent across 2545 public and private 2-year and 4-year colleges and universities. This is up slightly from the record low of 66.6 percent reached in 1996, but below the rate of 68 percent reported in 1983 and 1985. Over the period 1983 to 1998, the aggregate persistence rate has fluctuated within a narrow band of 66.6 and 68.0 percent.

Among the 1625 4-year colleges and universities in the ACT survey, the average persistence rate was 73.6 percent in 1998 as shown in the chart on page 1. This was up from the record low of 73.1 percent in 1998, but below the record high rate of 75.5 percent reached in 1983--the first year of the ACT report. Over the 16 years of the survey, average persistence rates in 4-year institutions have drifted downward and in 1998 they were about 2 percent below where they started in 1983.

Freshman-to-Sophomore Persistence Rates
by Academic Selectivity at 4-Year Institutions
1998



Trends and patterns in persistence rates vary between public and private colleges. In 1998 the average persistence rate in private institutions was 74.7 percent, compared to 71.3 percent in public institutions, as shown in the figure on page 1. Over the period of the available data, the persistence rate has always been higher in private colleges than in public colleges.

However, over the last 16 years, the persistence rate for private colleges has declined while it has held about constant in the publics. Between 1983 and 1998, the average persistence rate declined by 2.5 percent among privates, and declined by 0.1 percent in the publics. Thus, the gap in student persistence rates between privates and public closed by about 40 percent over this period.

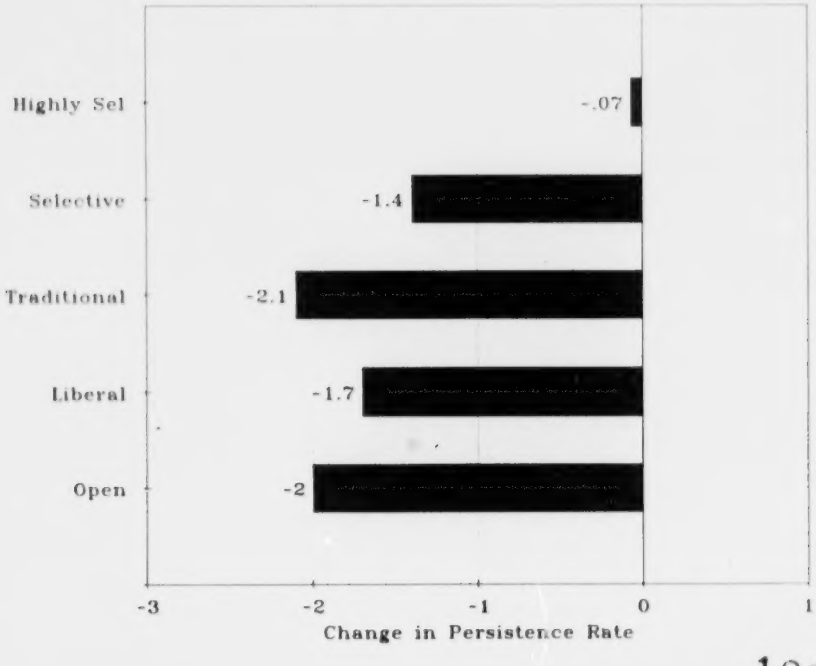
Both private and public 4-year colleges and universities have grown more academically selective over the last decade, a finding that becomes more apparent when persistence is examined through the filter of academic selectivity admissions standards.

Median Estimated Parental Income for College Freshmen by Institutional Level, Control and Academic Selectivity 1997

	Academic Selectivity				All
	Low	Medium	High	Very High	
Two-Year					
Public	-	-	-	-	$42,097
Private	-	-	-	-	$44,747
Four-Year					
Public	$46,639	$56,591	$65,912	-	$51,920
Nonsectarian	$54,048	$57,692	$66,429	$86,213	$60,814
Protestant	$49,453	$58,692	$64,592	-	$54,286
Catholic	$53,361	$54,211	$73,165	-	$58,824
Black					
Public	-	-	-	-	$33,451
Private	-	-	-	-	$38,230
Universities					
Public-men	$63,241	$63,491	$74,890	-	$62,838
Public-women	$57,603	$58,060	$70,233	-	
Private-men	$72,162	$88,636	$92,376	-	$81,678
Private-women	$67,674	$82,042	$92,481	-	

Source: *The American Freshman: National Norms for Fall 1997.*

Change in Freshman-to-Sophomore Persistence Rates by Academic Selectivity 1988 to 1998



Persistence Rates by Academic Selectivity

In 1998 (and every other year of the reported data), persistence rates were highest in the most academically selective institutions, and lowest in the least selective. In 1998, persistence rates ranged from 60.9 percent in open admissions institutions, to 91.1 percent at highly selective colleges and universities as shown in the chart on page 3.

The above finding has important implications. Foremost among these is that persistence rates are greatest among those institutions that serve students from the highest family income backgrounds, and that persistence rates are lowest among those institutions that serve students from lowest family income backgrounds.

The ACT survey does not collect data on the family income backgrounds of entering freshmen classes. But another survey does--the *American College Freshman* survey conducted annually by the Higher Education Research Institute at UCLA. The Freshmen survey data show the median parental income by academic selectivity levels for freshmen entering college in the fall of 1997. At each type and control of 4-year college or university, median parental income increases with academic selectivity. Among private nonsectarian 4-year colleges, for example, median parental income was $54,000 at low selectivity colleges, $58,000 at median selectivity, $66,000 at high selectivity and $86,000 at very highly selective colleges. Thus, we conclude that student persistence is highest for students from highest family income backgrounds, and lowest for students from lowest family income backgrounds.

This relationship between academic selectivity and family income takes on

added meaning when we examine changes in persistence rates over the last decade at each level of academic selectivity. The chart on page 4 shows these changes--the change in student persistence rates at each of the five levels of academic selectivity. Among highly selective colleges--those admitting a majority of their freshmen from the top ten percent of the high school class--there was virtually no change in persistence rates. They were, and remain, very high at around 91 percent on average.

However, at lower levels of academic selectivity, persistence rates have declined. Among selective admissions colleges they declined by 1.4 percent between 1988 and 1998. Among Traditional admissions colleges they declined the most, by 2.1 percent. They declined somewhat less at the least selective admissions colleges.

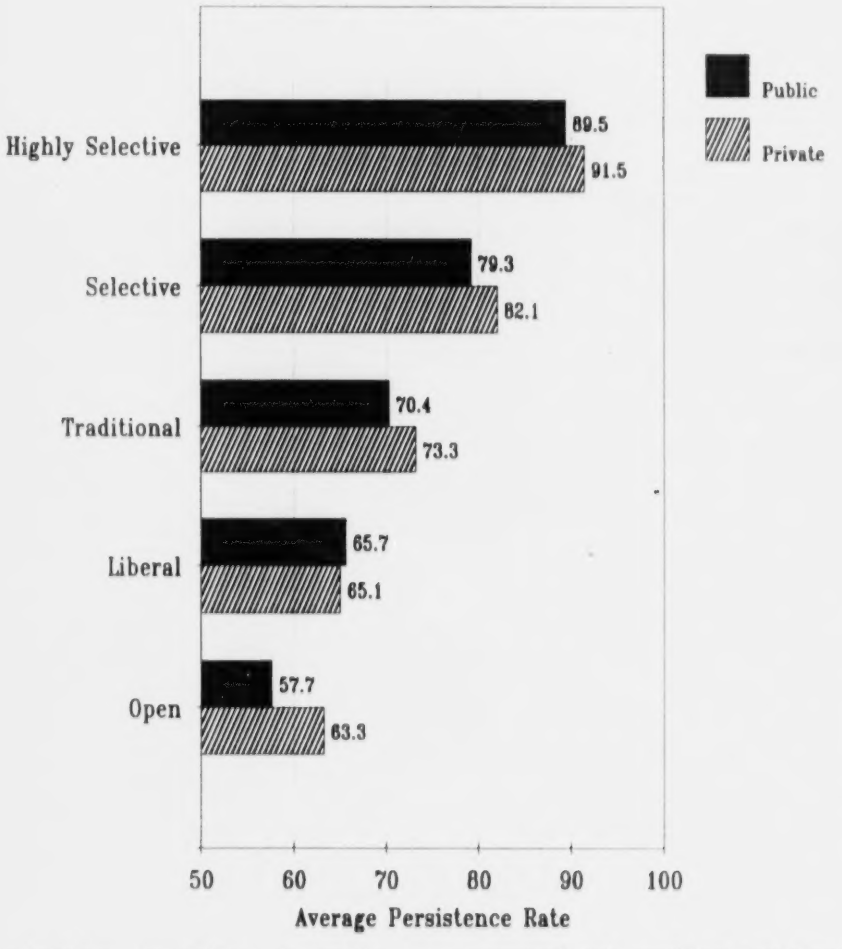
This indicates that persistence rates have not changed for students from the highest family income backgrounds, but have declined at lower levels. The decline has been greatest at the lowest three levels of academic selectivity which tend to enroll freshmen from families with incomes of less than roughly $60,000 to $70,000 in family income.

Persistence by Institutional Control

Overall, student persistence rates are higher in private institutions than in publics. Generally, this remains true when we add the control for academic selectivity as well.

As shown in the chart on this page, at four of the five levels of academic selectivity, private institutions report higher persistence rates than do public colleges and universities. At the three highest levels of academic selectivity, the private advantage over publics is 2 to 3 percent. Among open admissions colleges, the difference is nearly six percent. Only among liberal admissions institutions do public colleges report slightly higher average persistence rates than do privates.

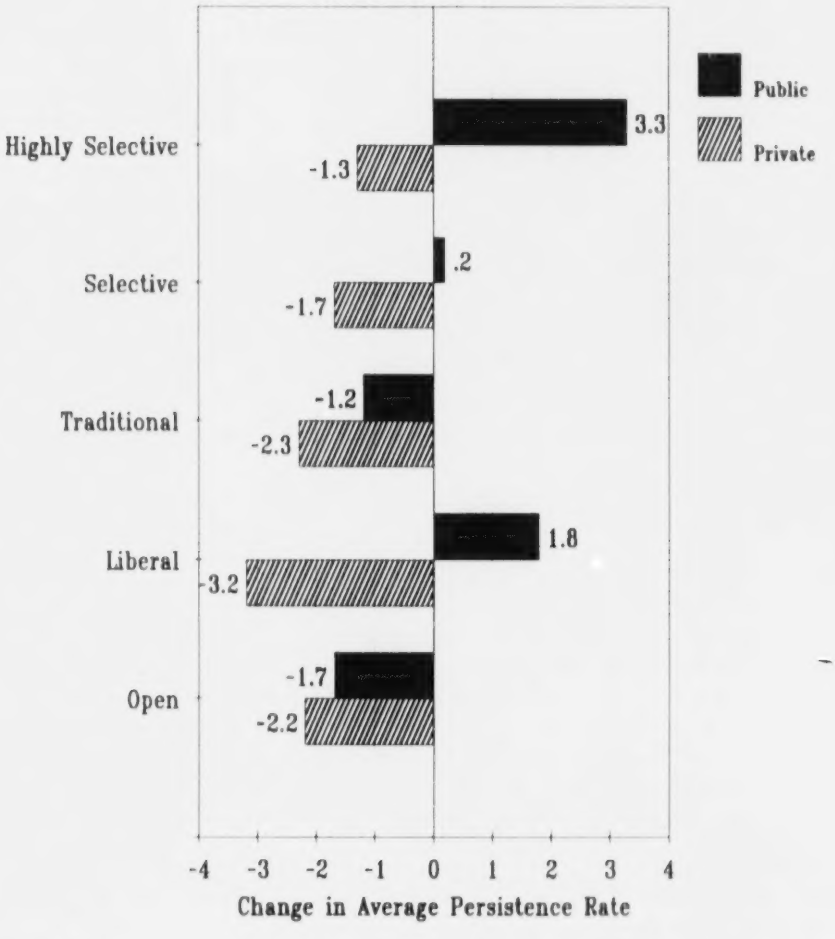
Freshmen-to-Sophomore Persistence Rates by Academic Selectivity and Control at 4-Year Institutions 1998



In our 1997 study of persistence rates by institution, we found that the private college advantage over publics was limited entirely to Catholic colleges. Our multivariate modeling of institutional persistence rates sought to control for pre-college and external institutional characteristics, and attribute the residual to internal institutional characteristics (supportive academic and social environments that we could not measure). We then compared this predicted persistence rate to actual rates for each of the 1063 4-year institutions in our sample, and ranked these institutions by the difference between actual and predicted persistence rates.

In our tests for institutional control, we introduced 0/1 dummy variables for different types of institutional control, including Methodist, Baptist, public, Catholic, nonsectarian, etc. In this modeling only the Catholic variable was statistically significant. In our model, the Catholic influences added about 6 percent to persistence

Change in Freshman-to-Sophomore Persistence Rates by Academic Selectivity and Control at 4-Year Institutions 1988 to 1998



rates. Thus, we would like to see ACT retabulate its data separating Catholic institutions from all other private institutions. ACT has not done this to date.

In the aggregate, persistence rates have declined over the last decade in private colleges, but held constant in public colleges. This picture changes somewhat when academic selectivity controls are introduced.

Between 1988 and 1998, persistence rates increased for public institutions at three of the five academic selectivity levels. The increase was greatest in the highly selective institutions that enroll students from the highest family income backgrounds. There was also a smaller increase in liberal and selective admissions public institutions.

At every level of academic selectivity, persistence rates declined for private colleges. These declines were least among the most selective private colleges, and greatest among the least selective. Of course this indicates that persistence rates declined the least for private college students from the highest family income backgrounds, and declined the most for students from lower family income backgrounds.

At every level of academic selectivity, persistence rates at public colleges gained on the persistence rates of private institutions. The gains for publics were greatest among the highly selective and liberal admissions colleges.

We have also analyzed changes in persistence rates by institutional type, control and selectivity, simultaneously. The findings from this analysis are consistent with the chart shown on this page. Between 1988 and 1998, the largest gain is persistence rates were reported for the following:

Public, 4-yr, highly selective	+5.6%
Public, MA, highly selective	+4.7%
Public, PhD, highly selective	+2.3%
Public, MA, liberal	+2.2%
Public, MA, selective	+2.1%
Public, BA, liberal	+1.3%

Among the eight groups of institutions classified by control, type and selectivity where average persistence rates increased between 1988 and 1998, seven were public and one was private.

The largest declines in persistence rates were reported for the following institutions:

Private, PhD, open	-17.2%
Private, BA, liberal	-5.0%
Private, BA, traditional	-3.8%
Public, BA, selective	-3.4%
Private, BA, selective	-3.3%
Private, BA, highly selective	-2.9%
Private, PhD, traditional	-2.4%
Private, PhD, liberal	-2.3%
Public, MA, open	-2.2%

Among the 22 groups of institutions classified by control, type and selectivity where average persistence rates declined between 1988 and 1998, six were public and fourteen were private institutional groups.

Clearly, public colleges are at least holding constant and even making progress in student persistence over the last decade. However, all but one of fifteen private college groups saw declines--often substantial--in persistence between 1988 and 1998.

Persistence Rates in 2-Year Colleges

For the 2-year colleges in the ACT IDQ survey, the average persistence rate was 55 percent in 1988. This compares to 73.6 percent in 4-year institutions. The persistence rate was 68.5 percent in private 2-year colleges (n=156), compared to 52.3 percent in public community colleges (n=764).

Between 1983 and 1998, persistence rates in 2-year colleges have drifted downward. For all 2-year colleges, this decline has been 1.8 percent. In privates the decline was 1.5 percent, and in publics it was 1.7 percent.

In 1998, 98 percent of the public 2-year colleges reported practicing liberal or open admissions. Among private 2-year colleges, this was 81 percent. About 95 percent of all 2-year colleges practice open admissions. Thus, comparisons between 2-year and 4-year college persistence rates need to be controlled for academic selectivity measures. Among public institutions that practice open or liberal admissions policies, the persistence rate in 2-year colleges averaged 51.2 percent compared to 62.0 percent in 4-year colleges and universities. Among private colleges, the persistence rate was 67.5 percent in 2-year colleges compared to 64.4 percent in 4-year institutions.

Summary and Conclusions

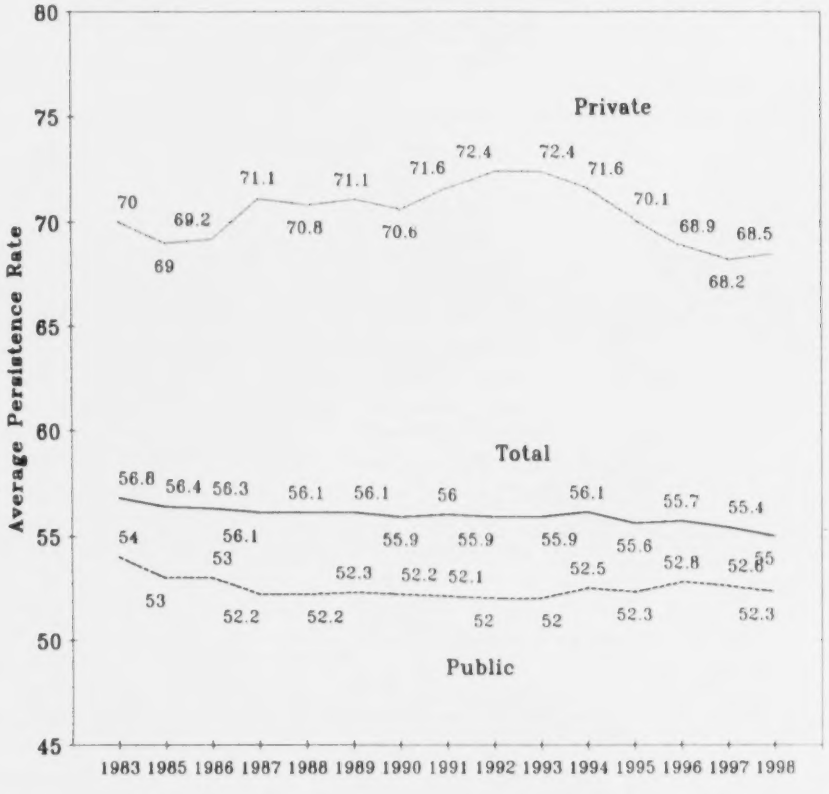
In 1998 two-thirds of the freshmen that began college a year earlier returned for their sophomore year of college. One-third didn't. The hemorrhaging of enrollment that begins in high school, continues between high school and college, continues once students enter college. About 14 percent of ninth graders do not graduate from high school. Among high school graduates, 33 percent do not enroll in college the following fall. Among those who enter college, another 33 percent do not enroll for their sophomore year at the same college.

The data reported here describe a slight, general decline in freshman-to-sophomore persistence between 1983 and 1998. This decline is greatest in private 4-year institutions.

At the same time some colleges, particularly academically selective public 4-year institutions, have increased their persistence rates. This may be the result of an enrollment shift from private to public selective admission 4-year institutions. Both private and public 4-year institutions became more academically selective over the last ten years. But public colleges increased their academic selectivity more so than did private institutions between 1988 and 1998.

Finally, at any level of academic selectivity, ACT data report substantial standard deviations for the average rates reported. This means some institutions are far more successful getting their admitted freshmen to their second year of college than are other institutions. This is encouragement for institutions to improve students' chances for success through programs of academic and social integration--the bread-and-butter of student persistence programs in college.

Freshman-to-Sophomore Persistence Rates at Public and Private 2-Year Institutions 1983 to 1998



Preliminary report . . .

FY1999 State Appropriations for Higher Education

State general fund appropriations for higher education have had a rocky decade in the 1990s. The economic recession of the early 1990s produced three years of actual reductions from prior year appropriations in FY1990, FY1991 and FY1993.

However, the subsequent economic expansion during the 1990s has produced steadily rising year-to-year increases in state general fund appropriations for higher education. The FY1999 appropriations are the best year yet in this decade. Moreover, for the first time in this decade (and probably in the 1980s as well), the increase in state general fund appropriations for higher education exceeded the other major state funding categories with which higher education competes.

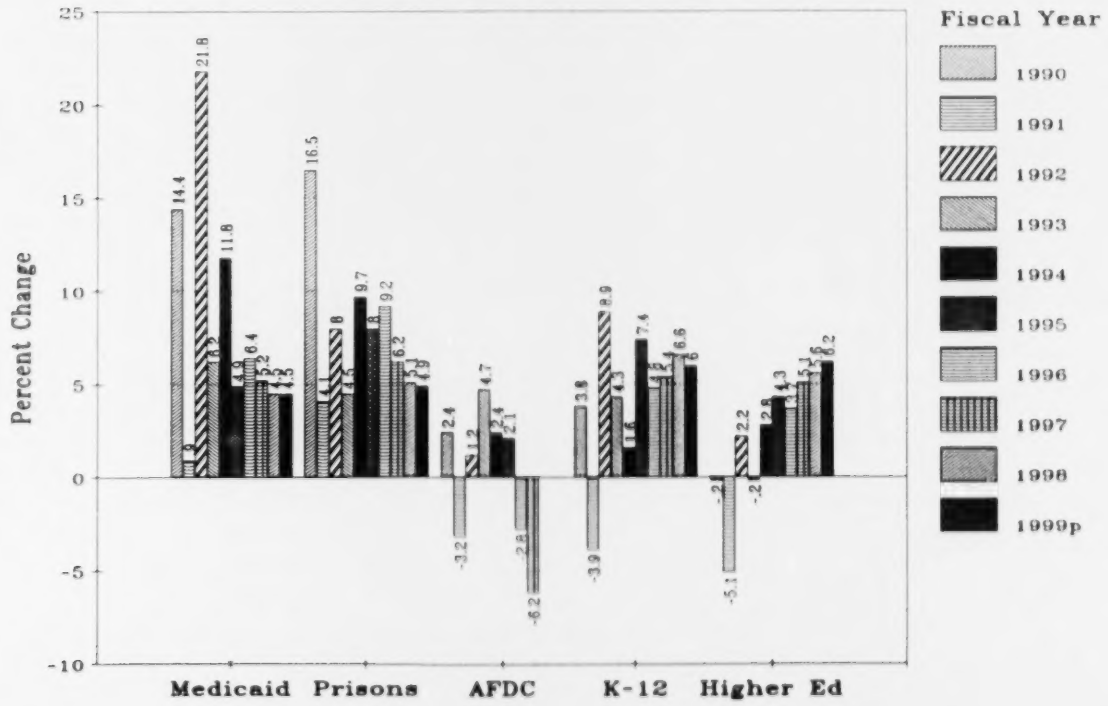
These preliminary findings were reported in July by the Fiscal Affairs Program of the National Conference of State Legislatures. The NCSL report is based on data collected from members of the National Association of Legislative Fiscal Officers. The reported data include appropriations by major program area, by funding source, fund balances, enacted revenue changes and other data collected from 46 states. (The other four--California, Massachusetts, North Carolina and Rhode Island--had not adopted state budgets at the time of the survey.)

State Budget & Tax Actions 1998, Preliminary Report. (July 1998.) National Conference of State Legislatures, Denver. Copies are available by calling (303) 830-2200.

The NCSL report is especially valuable for two reasons. First, it is the first comprehensive report on FY1999 state appropriations for higher education--it appears in late July in time for the NCSL post-legislative session meeting. Second, the NCSL report shows how state funding for higher education fared in competition for state funding with K-12 education, corrections, Medicaid and state tax cuts. The final report with state detail will appear late this fall.

As of this writing, specific state reports on state tax fund appropriations for higher education are beginning to be posted to the

Annual Changes in Major Expenditure Categories
from State General Funds
FY1990 to FY1999p



Grapevine website at Illinois State University at:

http://coe.ilstu.edu/grapevine/

When completed in late October these data will be published in *The Chronicle of Higher Education.* We will then report our analysis of these data by state in the November issue of **OPPORTUNITY**.

Highlights for FY1999

During the 1990s higher education has fared poorly in competition for state funding. K-12 education, Medicaid and corrections have all received annual funding increases larger than has higher education. Additionally, for several years cutting state taxes has been a higher state budget priority than has restoring earlier reductions in appropriations for higher education.

For the first time in the 1990s, state general funding of higher education increased more than the other major state spending categories.

Change in State Funding FY1998 Spending to FY1999 Appropriations

	General Fund	Total State Funds
Higher education	6.2%	5.5%
K-12 education	6.0	5.7
Corrections	4.9	4.9
Medicaid	4.5	3.8
All appropriations	5.3	-

The FY1999 state funding increase was the largest for any fiscal year of the 1990s. Following the very difficult period of the early 1990s, state appropriations for higher education have increased steadily, year-to-year, in percentage terms for the last six years.

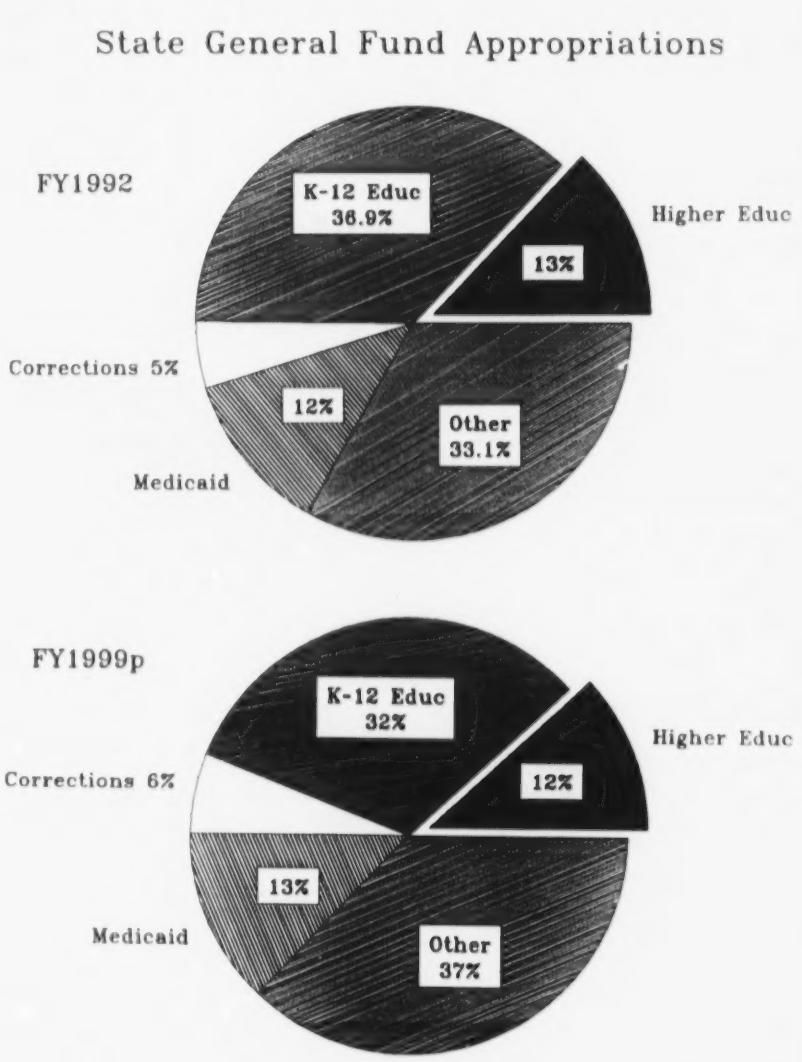
This gain occurs at the same time (and probably because of) that states report near-record year-end balances in their general funds. The prolonged economic expansion has produced wondrous results both in state and federal budgets. At the federal level, the economic expansion cures budget deficits.

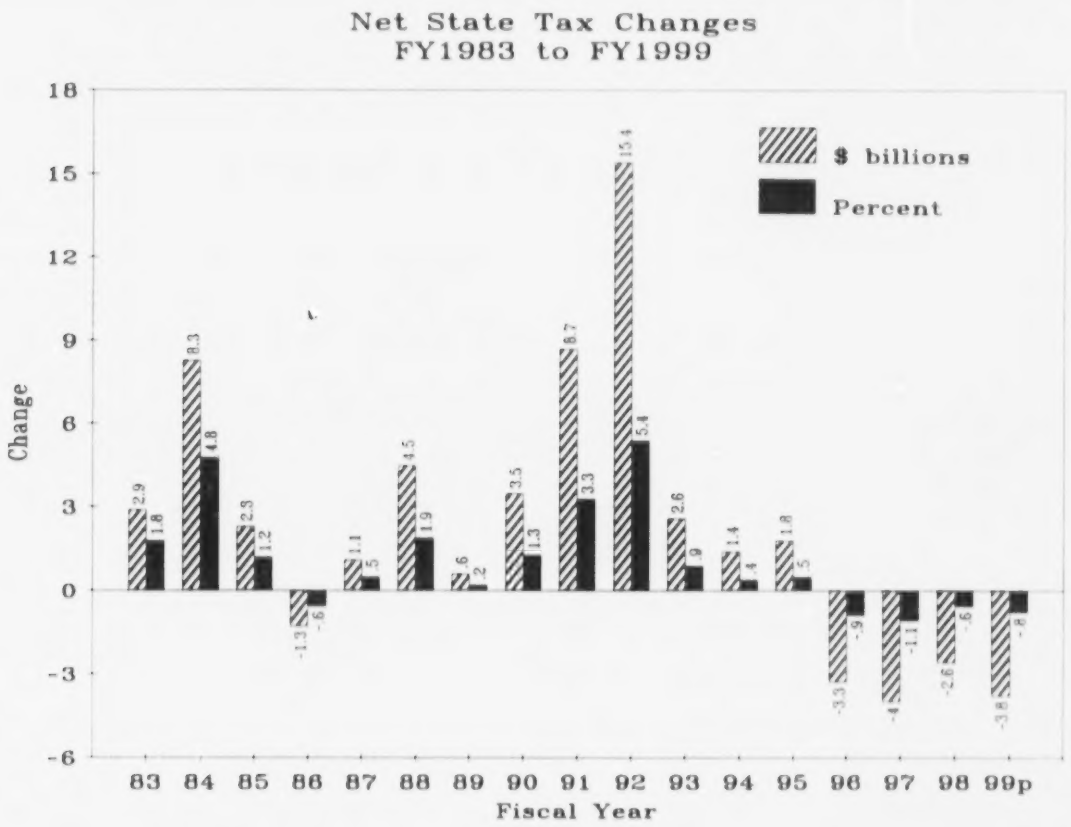
At the state level where budgets are already more-or-less balanced, the economic expansion produces surpluses. These surpluses have grown steadily since 1992, and as surpluses have grown so too have state appropriations for higher education.

This model has been termed the "balance wheel" by Dr. Hal Hovey in *State Policy Reports.* In bad economic times, higher education gets hit hard in state budgets because higher education always has the option of raising tuition charges to students to offset inadequate state appropriations. In good economic times, as social program costs decline and revenues accumulate as surpluses in state treasuries, state funding for higher education receives a somewhat higher budget priority.

Tax Cuts

An emerging competitor for state higher education funding is state tax





cuts. The preliminary NCSL survey report shows a total net state tax change of -$3.826 billion for FY1999 state revenues. The largest part of this reduction is in personal income taxes (-$2.1 billion), with other lesser reductions enacted for corporate income, sales and use and other taxes.

As the chart on this page shows, annual reductions in state taxes have been enacted each year since FY1996. Over the 1980s and 1990s, the relationship between state tax changes and the business cycle becomes clear. During the recession phase, states enacted (large) tax increases. But during prolonged economic expansion, states have eventually enacted modest state tax reductions.

Summary and Conclusions

The National Conference of State Legislatures annual survey of state budget actions provides an important and very early look at how higher education funding has fared in state budget decisions. This summary is based on the preliminary report of FY1999 state budget actions. The final report with all states in greater detail will become available late this year, probably in December. In the meantime, state tax fund appropriations for higher education are being compiled and reported on the *Grapevine* website.

The short term perspective on state general fund appropriations for higher education is that FY1999 was an outstanding year. Higher education received the largest percentage increase for any year in this decade. Moreover, higher education beat out most of its competition, again for the first time in the 1990s. Maybe this suggests that higher education's role in state development is gaining some respect among governor's and legislators. But maybe this is a bubble, the product of extraordinary economic prosperity, that could disappear if the economy enters the recession phase of the business cycle.

A longer term perspective on FY1999 state appropriations is much more disturbing. Education--both higher and K-12--is receiving a sharply reduced state budget share in FY1999 compared to what it received in FY1992. Education's priority is being displaced by corrections, Medicaid, other state expenditures, and tax cuts.

No one knows for sure whether the short term optimistic view or the long term pessimistic view will prevail. The economic needs for ever greater levels of education and training in the workforce tug policy in one direction. The lowest common denominators of the political process tug policy in the other. Stay tuned.

It does take a village . . . *. . . to raise a child*

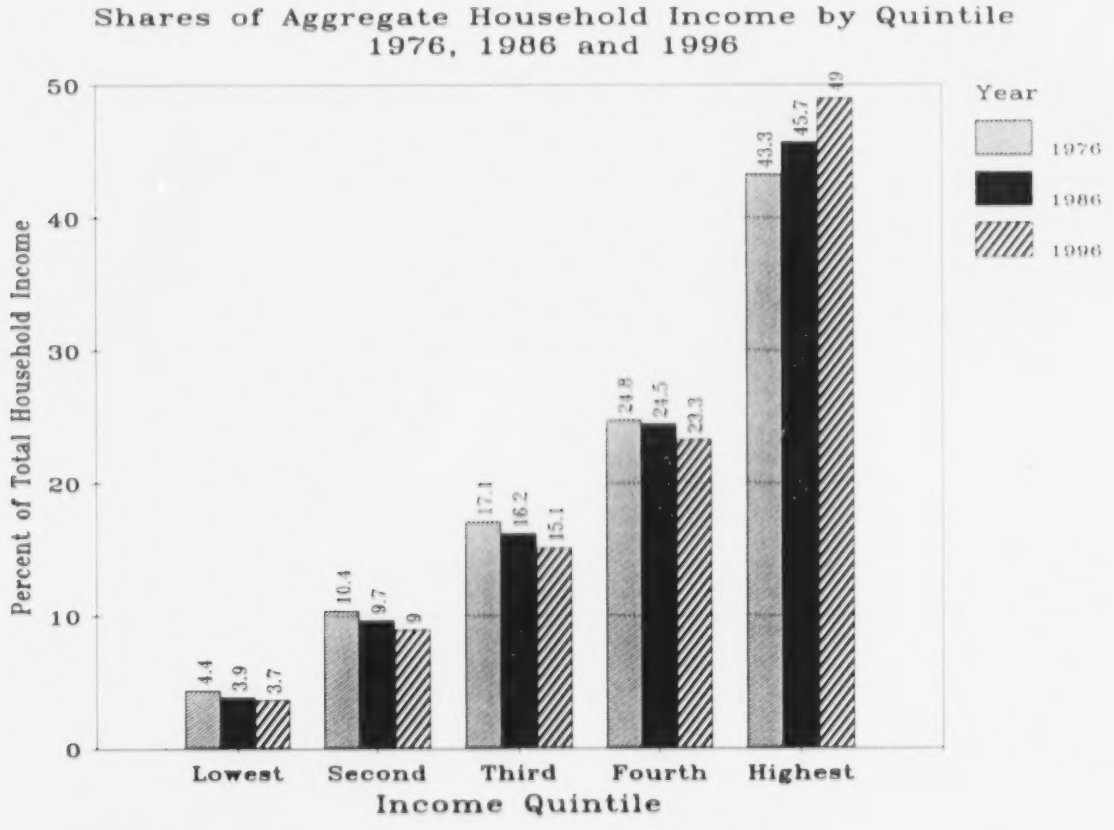
Growing Income Inequality, Public Selfishness and Consequences for America's Children (and Our Future)

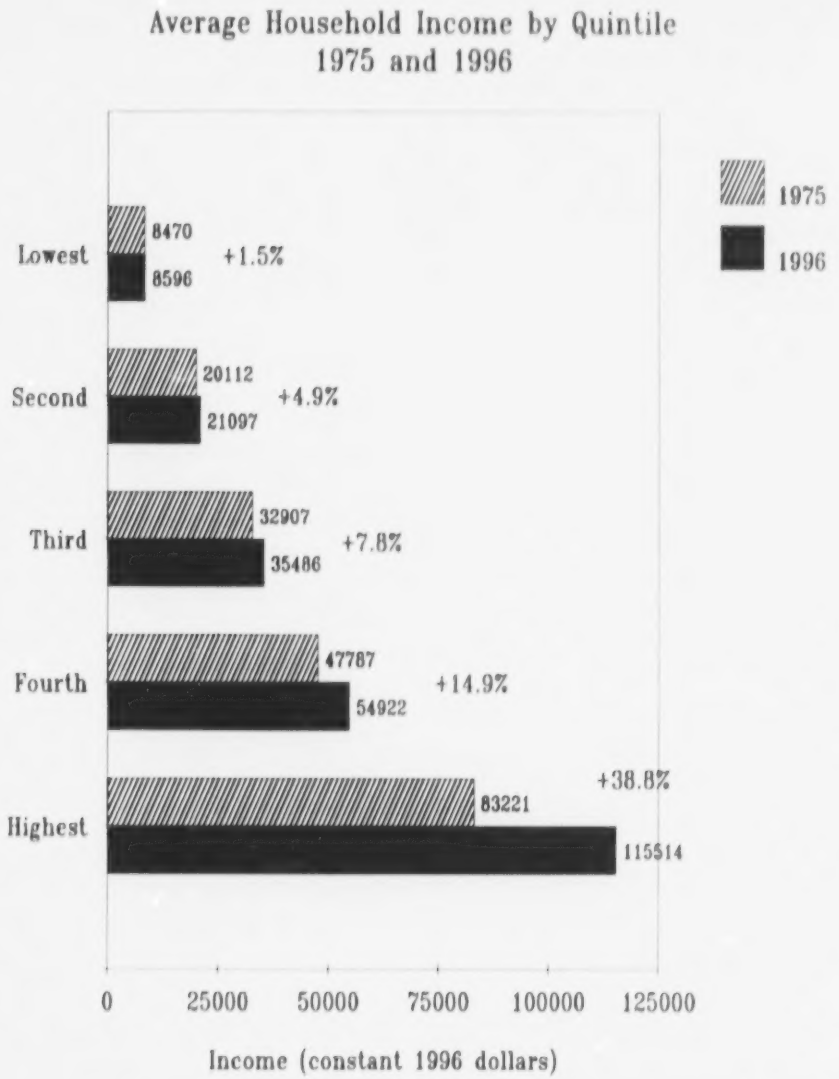
By many measures, the 1990s have been an era of extraordinary economic prosperity in American and world history. Economic growth, uninterrupted since the early 1990s, has led to widespread economic vitality, including jobs for almost anyone who wants one. Government revenues continue to exceed expenditures. Government budget deficits are reduced, surpluses accumulated and taxes are cut. While economic systems elsewhere shutter and stumble, the American economy has marched onward and upward.

The economic interpreters of our times would have us believe that these are the best of times, that things just can't get any better than this. We have economic growth, low unemployment and low inflation. If all Americans received the salaries of these economic soothsayers, that would be true. But not all Americans receive the same income. And herein the rosy picture of American prosperity quickly starts to break down, and break down badly. Our public selfishness greatly exacerbates the already maldistribution of private welfare in America, and has particularly devastating consequences for our nation's children.

Income is extraordinarily unequally distributed in the United States. The rich are very rich, and the poor are very poor. Moreover, income inequality has been growing almost steadily and very substantially since 1968, and at an accelerating rate since about 1980, according to data from the Census Bureau. The very rich are getting very much richer. The growth in income shares over the last twenty years has been limited to the top five percent of all households ranked by income.

Children are raised in households. Thus, American children are affected by household income inequality. Many American children are raised in stunning economic affluence unequaled





elsewhere in the world today. Also many American children grow up in households that fall below poverty thresholds. Their poverty rates are higher than for any other age groups of Americans, and their numbers are growing.

People everywhere seem to understand that their children are the future of their economic, social and cultural systems--their civilizations. Everywhere children are born into the circumstances of their families, at widely varying living standards. But everyone--except Americans--acts as if they believe caring for poor children is a broadly shared social responsibility. The United States stands out among the developed countries of the world by its callous neglect for its poor children.

The United States taxes itself at about the lowest rate of any country in the world. We have chosen private wealth and public poverty. Those among us who prosper have chosen to acquire and hoard wealth. We have chosen not to share it through government social programs. We seek tax cuts, financed by the reduction or elimination of social programs for the poorest among us. The rich get richer, the poor get poorer, and the children that represent the future of our civilization are left divided. For some children, the future is bright. But for other children, their futures are almost hopeless. We find it difficult to see a bright future for a country that devours its seed corn.

Income Inequality

In 1996 the Census Bureau estimated that there were 101,018,000 households in the United States. In the following analysis these households are first ranked by household income, then divided into five equal size groups, called quintiles, of 20,203,600 households each. The fifth of all households with the lowest household incomes constitute the bottom quintile, the next fifth of households with the next lowest incomes constitute the second quintile, and so on.

Income is not equally distributed across households in the United States.

- The bottom quintile (20 percent) of all households had just 3.7 percent of household income in 1996.
- The second quintile or 20 percent of all households had 9.0 percent of household income.
- The third quintile received 15.1 percent of all income.
- The fourth quintile received 23.3 percent of all income.
- The fifth or top quintile received 49.0 percent of all household income.

Or expressed another way, in 1996 the top one-fifth of all households had more than 13 times the income of the bottom one-fifth of all households. The top income quintile of households had nearly half of all household income in 1996. The other half was (unequally) divided among the remaining 80 percent of all households.

U.S. Bureau of the Census. Current Population Reports, P60-197. *Money Income in the United States: 1996 (With Separate Data on Valuation of Noncash Benefits).* U.S. Government Printing Office, Washington, DC, 1997.

The Census Bureau has studied the distribution of income for the last fifty years. Over this period of time, there have been two major trends in the distribution of household income.

- Between 1947 and 1968, the distribution of income across families grew more equal.
- Then, between 1968 and 1996, the trend reversed and the distribution of income has grown less equal.

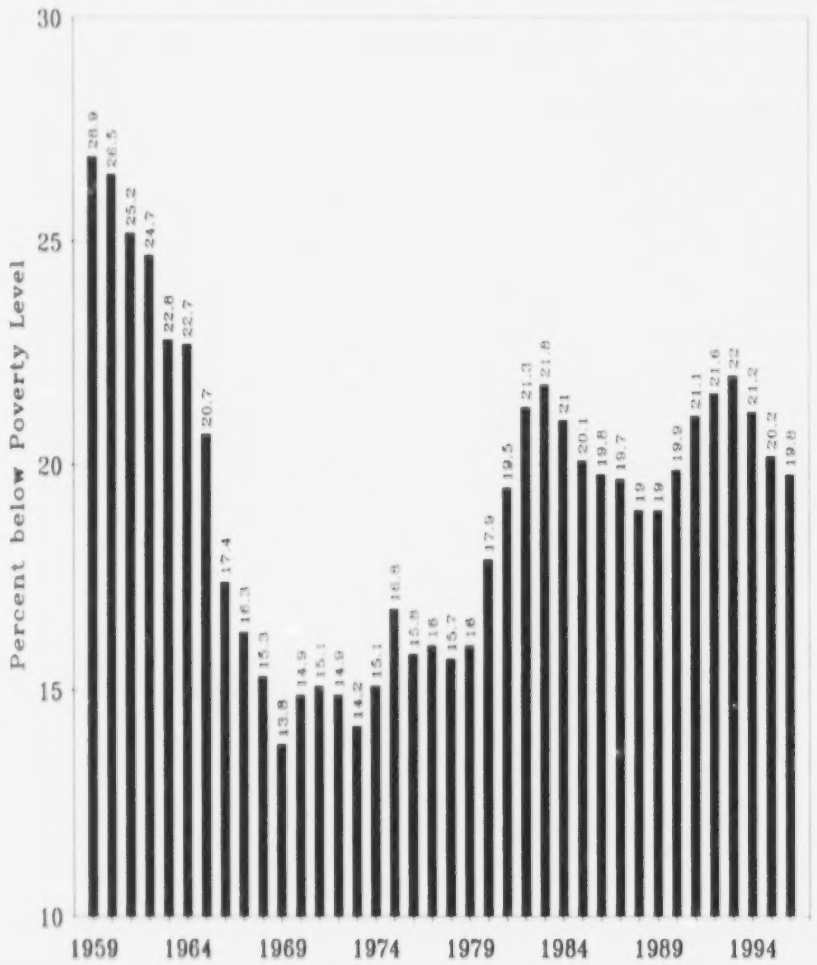
The 1947 level of income inequality was reached by 1982.

Weinberg, D. H. (June 1996). *A Brief Look at Postwar U.S. Income Inequality.* Census Bureau. Current Population Reports, P60-191. Available on the Census Bureau's website at www.census.gov.

The trend towards greater income inequality has continued and even accelerated between 1980 and 1996. The Census Bureau uses the Gini Index to measure income inequality. The Gini Index ranges from 0.0, when every household (family) has the same income, to 1.0 where one household (family) has all of the income. Using the Gini Index for household (family) income as the reference, income inequality grew 2.6 times faster between 1980 and 1996 than it had increased between 1968 and 1980.

A second way to look at the growth of income inequality is to look at the

Child Poverty Rates in the United States
1959 to 1996



shares of household income for each quintile over time. As shown in the chart on page 11, the share of household (family) income received by each income quintile declined between 1976 and 1986, and again between 1986 and 1996, for each income quintile--*except the top quintile*. The share losses were steepest in the three middle quintiles.

Growth in household income shares was limited to the top household income quintile. Within the top quintile, income share growth was limited to the top five percent of all households. Between 1976 and 1996, the top five percent of all households increased their share of all household income from 16 to 21.4 percent. This income growth to the top five percent over the last twenty years has come from the bottom 80 percent of all households.

A third way to look at who has prospered in these times of extraordinary economic growth is to look at the average household income for each income quintile in 1975 and 1996. This chart--on page 12--shows not just that average income increases

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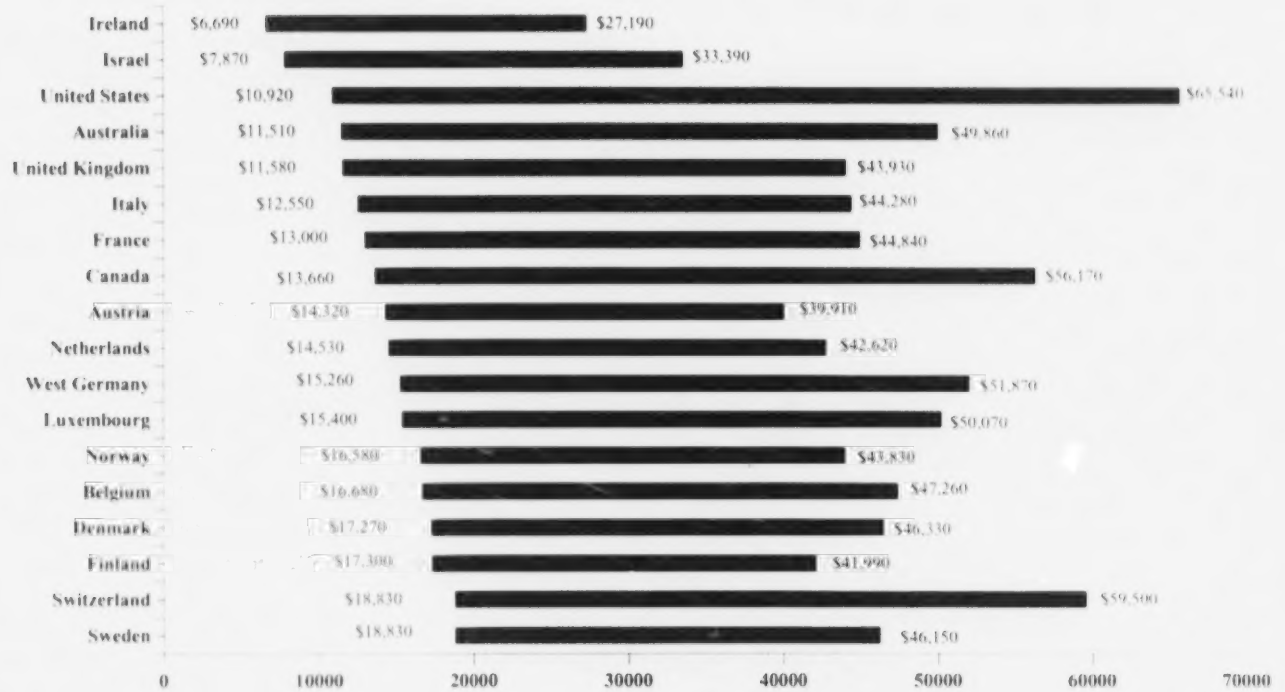
Gap Between Rich and Poor Children



with each quintile increase, but rather that income growth over this period is linked to income. Income growth was smallest at 1.5 percent in the bottom quintile and largest at 38.8 percent in the highest quintile of income.

The Census data are clear. First, household income is highly unequally distributed in the United States. The rich are very much richer than the poor. And second, the distribution of household income has grown substantially more unequal since 1968, with growth in income share limited entirely to the top five percent of the income distribution, mainly at the expense of the middle 60 percent of the income distribution.

Effects on Children

Children are raised in families. Thus the inequality in the distribution of household income means that children are directly affected. Moreover, children are also directly affected by the growing inequality in the distribution of household income.

Here are two ways to look at the effects of income inequality on children. One is international and cross-sectional, or how income inequality affects children in different countries. The other examines the effects of low income on children over time within the United States.

International comparisons of income inequality on children have been conducted in the Luxembourg Income Study. In the chart on this page, the after-tax incomes of families of four with children at the 10th and 90th percentiles of household income are shown in 18 western, industrial countries. The 10th percentile represents poor children, and the 90th percentile represents rich children. As this chart shows, rich children in the United States are better off than children living in any other western country. Only rich children in Canada and Switzerland come close.

However, only poor children in Ireland and Israel are poorer than poor children in the United States. While the United States ranks first in family income for rich children, it ranks 16th among these 18 countries in household income for its poorest children.

Another measure of the effects of unequal income distribution on children is child poverty rates. As shown in the chart on page 13, child poverty rates were over 25 percent around 1960. They dropped sharply, to a low of 13.8 percent in 1969. then rose to around 20 percent by the early

1980s and have remained between 19 and 22 percent for the last 15 years. In 1996 the poverty rate for all children stood at 19.9 percent. By racial/ethnic group the child poverty rates were 15.5 percent for white children, 39.5 percent for black children, 39.9 percent for Hispanic children and 19.1 percent for Asian/Pacific Islander children.

The Village Response

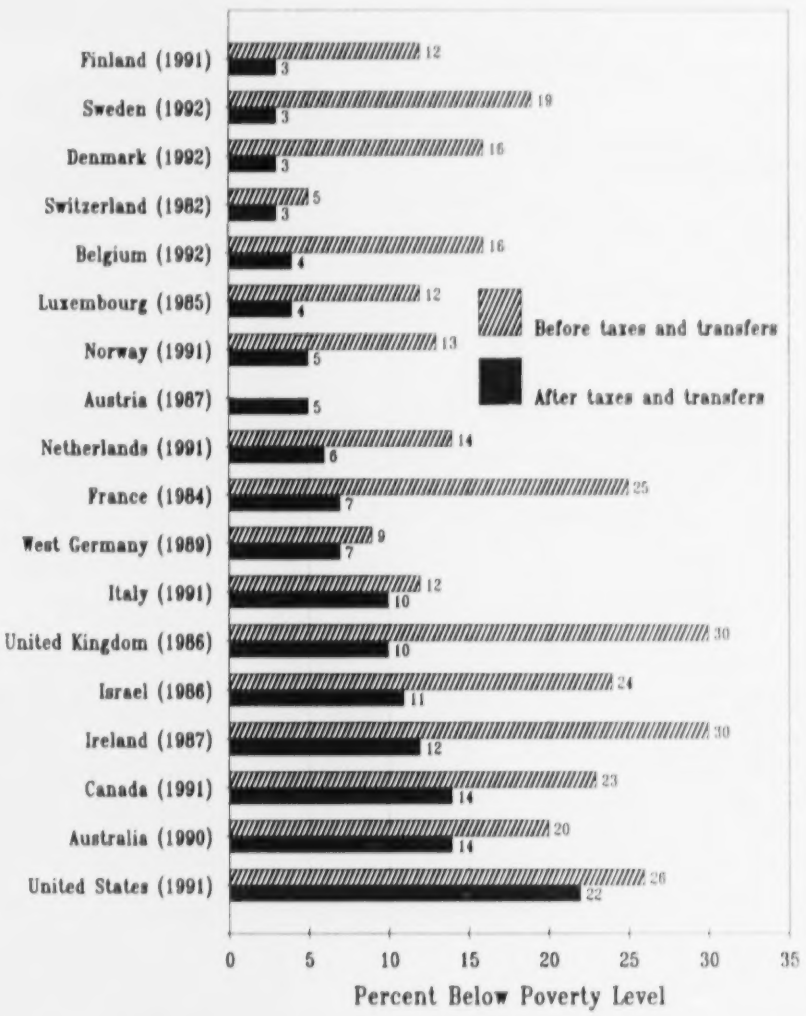
There are poor children everywhere in the world. This is due, in part, to children being born to young adults who have not yet achieved their adult income potential.

But countries vary widely in their response to their poor children. In another of the Luxembourg Income Studies (widely reported by UNICEF), the effects of government intervention on child poverty rates was studied. Government intervention controls for the effects of tax policy and social programs (income transfers). In these studies, the poverty line is drawn at 50 percent of each country's median income after taxes and welfare benefits have been accounted for.

Government intervention reduced child poverty rates in 17 of the 18 countries included in the analysis. (The exception was Austria where pre-intervention data were not available.) In 11 of the 18 countries studied, child poverty rates were at least halved by government intervention. Eight countries succeeded in reducing their child poverty rates below five percent. These were **Austria, Belgium, Denmark, Finland, Luxembourg, Norway, Sweden** and **Switzerland**.

Only five countries have child poverty rates greater than 10 percent after government intervention. These countries are **Israel, Ireland, Canada, Australia** and the **United States**.

Child Poverty Before and After Government Intervention


Finland (1991) 12 3
Sweden (1992) 19 3
Denmark (1992) 16 3
Switzerland (1982) 5 3
Belgium (1992) 16 4
Luxembourg (1985) 12 4
Norway (1991) 13 5
Austria (1987) 5
Netherlands (1991) 14 6
France (1984) 25 7
West Germany (1989) 9 7
Italy (1991) 12 10
United Kingdom (1986) 30 10
Israel (1986) 24 11
Ireland (1987) 30 12
Canada (1991) 23 14
Australia (1990) 20 14
United States (1991) 26 22
Before taxes and transfers
After taxes and transfers
0 5 10 15 20 25 30 35
Percent Below Poverty Level

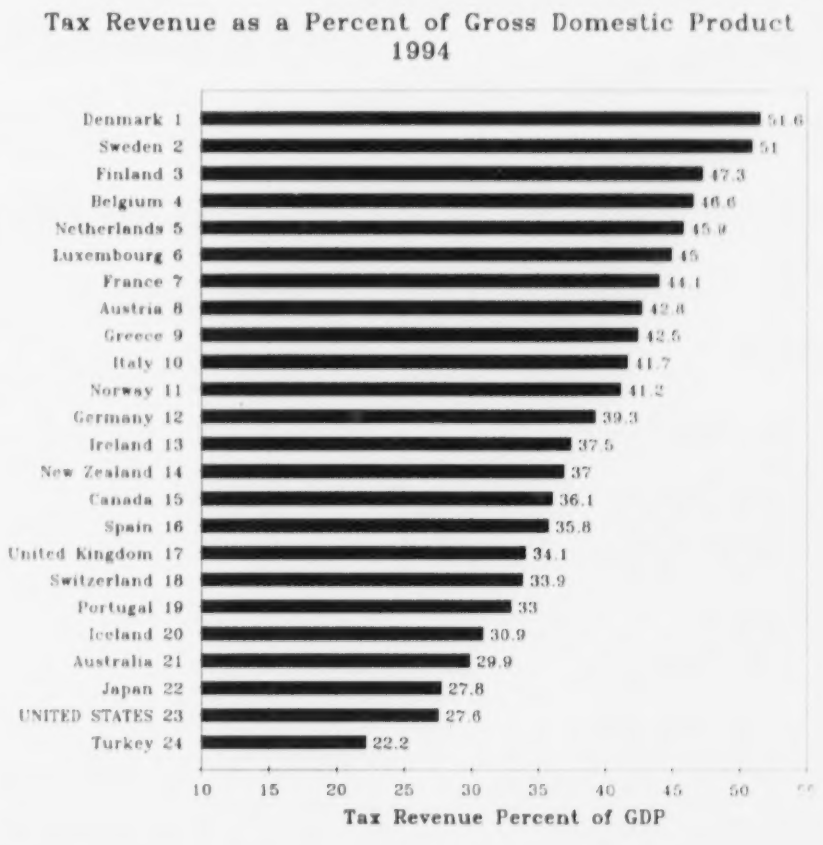
The United States easily leads the western world in child poverty rates after government intervention. The child poverty rate in the United States is 22 percent after government intervention. This is more than 50 percent higher than the after-intervention child poverty rate than any other western country.

Conclusions

This analysis has shown that household income is highly unequally distributed in the United States, and that it has grown more unequal since about 1968. The unequal distribution of household income has a direct effect on children. Children in the United States are more unequally distributed across household income levels than any other of 18 western countries. Government intervention through tax policy and income transfers does less to alleviate poverty among poor children in the United States than any other western country. As a direct consequence, the resulting child poverty rate in the United States is 50 percent higher than the poverty rate in the next highest rate country.

If the United States were such a poor country that it lacked resources to alleviate the effects of child poverty, one might be more tolerant of the neglect of poor children here. But this is not a poor country. What sets the United States apart from the rest of the western world is that we have *chosen* to make the least efforts to support our poorest children. There is no constraint on our *ability* to help poor children. The constraint is on our *willingness* to help poor children.

Our reluctance to share our private wealth with others through government programs is no more evident than in international comparisons of taxes collected by government as a proportion of each country's gross domestic product (GDP). The chart to the right shows tax efforts in 24 western countries. The United States ranks 23rd in tax effort. We have *chosen* low tax effort, and continue to make that choice. Our choice reflects short-sighted, selfish greed. One of the (many) victims of this choice is America's poorest children.



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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 75 | Oskaloosa, Iowa | September 1998

Savage inequalities . . .

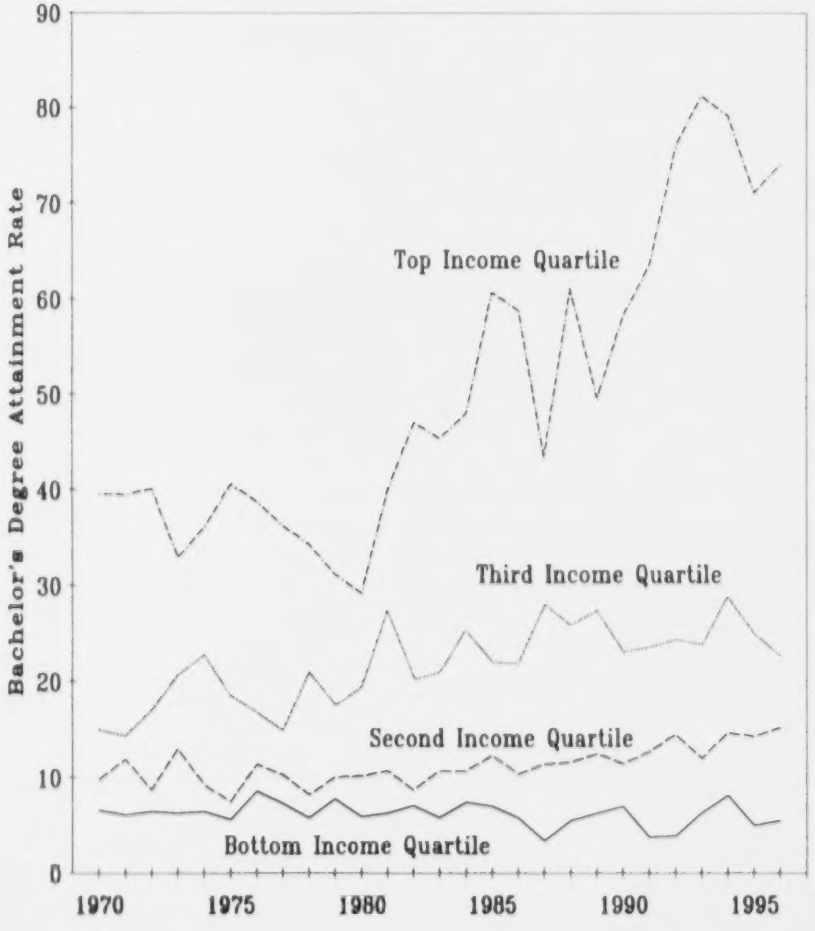
Educational Opportunity by Family Income 1970 to 1996

Title IV of the Higher Education Act of 1965 focuses federal policy and programs on students from low income family backgrounds. The student financial aid provisions of Title IV are driven by a means test--the Federal Methodology--which limits federal student financial aid assistance to students with a demonstrated financial need for assistance to pay college attendance costs. The Pell Grant program--the country's largest grant program--is targeted on students from the bottom quartile of the family income distribution. The outreach provisions of Title IV in the federal TRIO programs are targeted on students from families with incomes below 150 percent of the federal poverty level where neither parent is a college graduate.

This focus on financially needy students from low- to middle-income family backgrounds has been a consistent theme of federal postsecondary education policy since the original enactment. Each subsequent reauthorization--at roughly six year intervals--has reaffirmed this federal focus and commitment. While the 1998 reauthorization offers a different rationale for federal policy--economic benefits rather than equality of opportunity--the programs remain intact that focus federal resources on those without enough money to pay college attendance costs.

Moreover, this focus on "need" for federal assistance to attend college is surviving the current onslaught against affirmative action and preferences based on race, ethnicity, gender and other factors used in college admissions and financial aid. As a society, we maintain a broad political

Estimated Chances for a Baccalaureate Degree by Age 24 by Family Income Quartile 1970 to 1996



consensus that supports national government resources focused on those with limited financial means to attend college. We still think that this is a vital public purpose that individuals cannot fulfill without assistance.

Therefore we review recently updated federal Census data on educational opportunity at different levels of family income to see how well we are doing.

- How well have we equalized opportunity for higher education (in the language of the 1992 Education Amendments)?
- How well are we broadening educational opportunity to meet economic development needs (in the language of the 1998 Education amendments)?

The answer is: not well at all by either measure. In fact, we are doing very poorly, we are failing. As measured by the national commitments of 1965 to eliminate poverty, we are failing badly. As measured by the commitments through 1992 to equalize higher educational opportunity we have failed. As measured by the currently articulated need to prepare the workforce for the skilled office workplace of the future we are again failing. By any of these measures, the growing needs for postsecondary education and training are not being adequately met, and they are certainly not being adequately met for those on whom federal policy is targeted.

This analysis examines trends and patterns in educational participation and attainment across levels of family income. The trends span the years from 1970 through 1996. The patterns are explored in the most recent data, for 1996, across more detailed levels of family income.

The stories told by these data are simply alarming. Whether one reads these data from the perspective of eliminating poverty, or equalizing opportunity, or meeting skilled manpower needs, our efforts to date have been grossly inadequate. As a result we have far more poverty than we should have (or had at the point in the 1960s and early 1970s when we more effectively addressed the problem). We have far more inequality of educational attainment than we have ever had. And we continue to over-supply the labor market with unskilled workers, and under-supply the labor market with the most highly educated workers.

Here, then, is the record of what we as a nation have done (or not done) and what we are doing (or not doing) from the framework of federal policy objectives regarding educational participation and attainment for young people from different family income backgrounds.

The Data

Data used in this analysis have been collected and reported by the Census Bureau from the Current Population Survey (CPS) since 1970. The CPS is a monthly survey of about 50,000 randomly-selected households that collects data on employment and unemployment. These monthly surveys are supplemented in certain months with additional questions that ask about school enrollments (October) and educational attainment (March).

The October supplement to the CPS gathers school enrollment data in addition to the usual employment and unemployment data. These data are cross-tabulated and reported by many demographic and economic measures including family income. These data provide the bases for the following analyses.

U.S. Bureau of the Census, Current Population Reports, *Money Income in the United States: 1977 (With Separate*

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Data on Valuation of Noncash Benefits), U.S. Government Printing Office, Washington, DC, 1988.

The above report is also available free from the Census Bureau's website at:
http://www.census.gov

The following report consists of two types of analyses: trends over time and patterns for 1996. Both analyses examine educational participation and estimated attainment as a progression from high school graduation to college participation to estimated college completion. The trend analyses recompile reported data by quartiles of family income for the years from 1970 through 1996. The pattern analysis compiles data for more detailed income ranges and population subgroups for the most recent year, 1996.

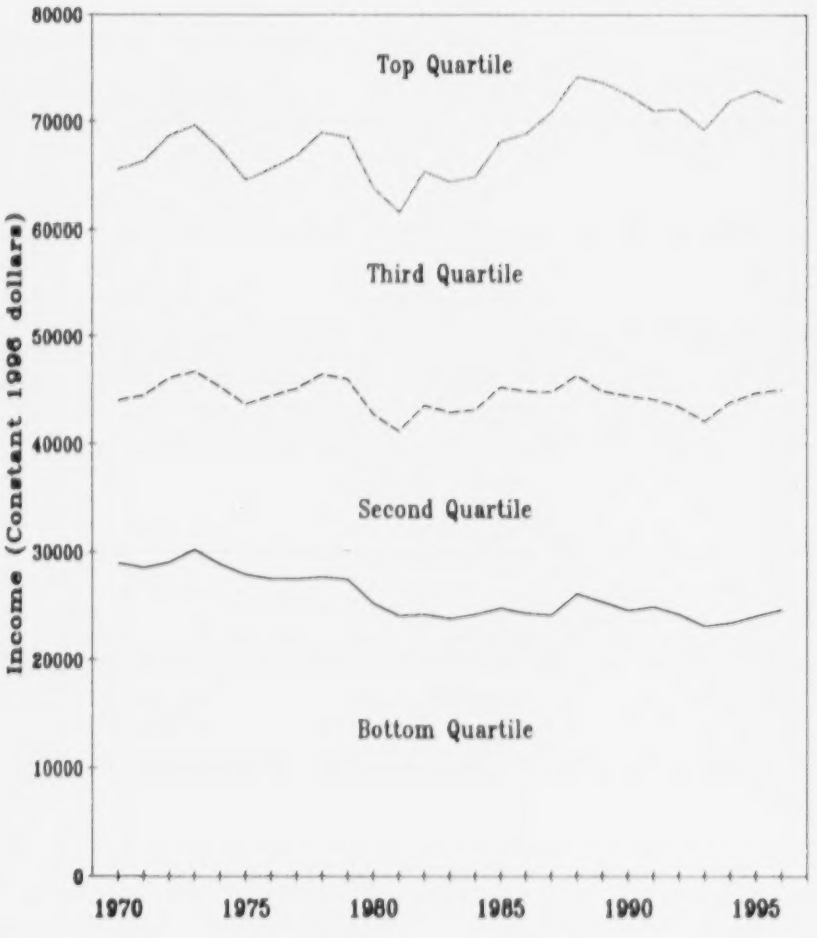
Family Income Trend Analysis

To analyze educational data by family income over time, we first need to make the income data comparable. There are two ways to do this: deflate current dollars to constant dollars with a deflator (such as the Consumer Price Index), or create constant intervals (such as quintiles, deciles, quartiles). We have chosen the latter approach due to the historical origins of this analysis. We have converted (through extensive, painful hand calculations) the published income interval data to *quartiles of family income for unmarried high school graduates ages 18 to 24 years*.

Each quartile contains exactly one-quarter of the population of unmarried 18 to 24 year old high school graduates. These family income intervals are shown in the graph on this page. In 1996 the upper limit of the bottom three family income quartiles were as follows:

Bottom quartile:	$24,589
Second quartile:	$45,035
Third quartile:	$71,801

Family Income Quartile Range Limits
for Unmarried High School Graduates 18 to 24 Years
1970 to 1996



Over the 27 year period of this analysis, the incomes of the ranges of family income quartiles have changed. These quartiles reflect the growing inequality of family income distribution that has been occurring in the United States since 1968 (see August 1998 OPPORTUNITY.)

- The upper limit of the bottom family income quartile has declined from $28,942 in 1970 (1996 dollars) to $24,589 in 1996, a decline of 15.0 percent in constant dollar terms. Thus, the bottom quartile was notably poorer in 1996 than it had been in 1970.
- The upper limit for the second quartile is the median for all families. This increased from $43,976 in 1970 to $45,035 in 1996, and increase of 2.4 percent.
- The upper limit for the third quartile increased from $65,587 in 1970 to $71,801 in 1996, and increase of 9.5 percent.

This redistribution of family income for unmarried 18 to 24 years olds shows that the poor were notably

poorer, and the rich are notably richer in 1996 compared to where they were in 1970. This finding is consistent with Census Bureau studies of growing income inequality in the United States since the late 1960s.

High School Graduation Trends

High school graduation is the first of three hurdles a student must successfully surpass to attain a bachelor's degree by age 24. Those who do not make it over this hurdle are out of the race since high school graduation is a requirement for college admission.

In 1996 the high school graduation rate for unmarried 18 to 24 year olds was 80.4 percent. By family income quartiles, the rates were:

Bottom quartile:	64.9%
Second quartile:	81.7%
Third quartile:	87.9%
Top quartile:	93.4%

Immediately the dominant pattern is apparent: high school graduation rates are lowest for those from lowest family income backgrounds, and highest for those from highest family income backgrounds. This pattern persists throughout this analysis.

Over the 27 years of these data, there has been little growth or decline in high school graduation rates at each quartile of family income. Most of the fluctuation is probably due to random sampling error and not any real year-to-year change. If there are real trends in these data, they are very modest. There might be small gains in the high school graduation rates in the top and bottom family income quartiles, and a slight decline in the second quartile.

Students from the bottom quartile of family income deserve special mention. Students from this quartile are notably poorer in 1996 than they were in the 1970s. Yet there appears to be a slight increase in the proportion of this group graduating from high school. If this is so, it is certainly a significant accomplishment.

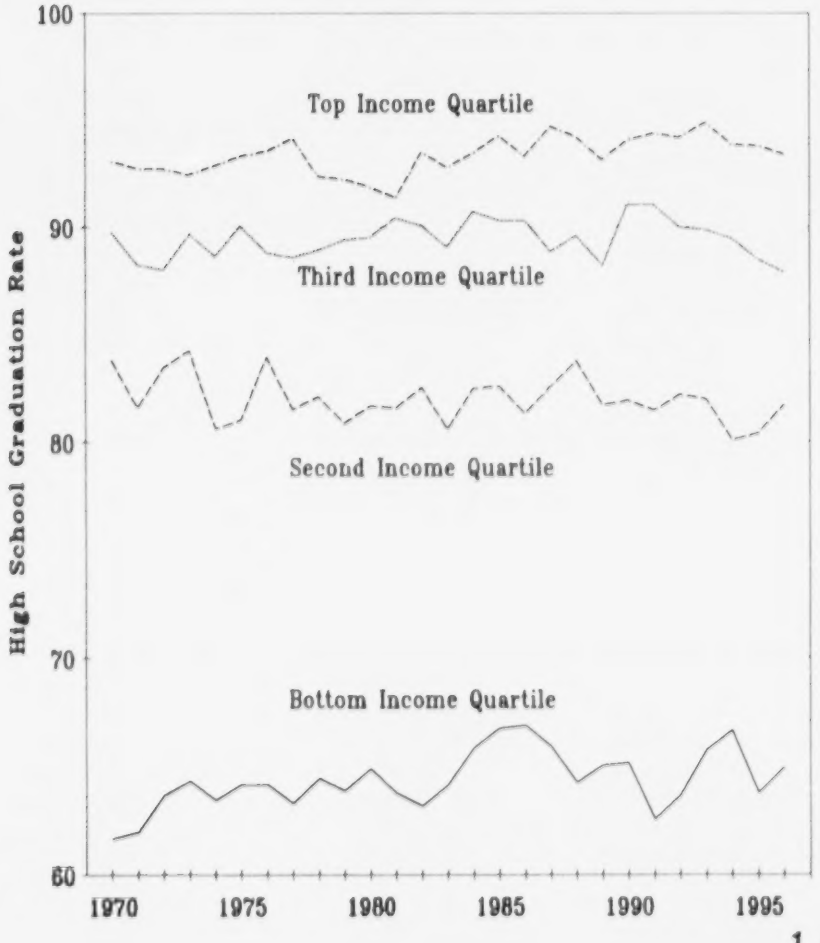
Here, at the very first hurdle, the future living standards of unmarried 18 to 24 year olds are determined according to family income backgrounds (and by what other factors family income measures). A fifth of these students were not high school graduates.

However, the proportions students from each family income quartile that had not graduated from high school ranged from 35 percent of those from the bottom family income quartile to about 7 percent of those from the top quartile of family income. The bottom family income quartile student was five times more likely to not be a high school graduate than was the student from the top family income quartile.

College Participation Trends

The second hurdle on the path to a bachelor's degree by age 24 requires college enrollment for those who graduate from high school. Obviously a student must enroll in college if he or she ever expects to earn any college degree.

High School Graduation Rates by Family Income Quartiles
for Unmarried 18 to 24 Year Olds
1970 to 1996



In 1996 the college participation rate for unmarried 18 to 24 year old high school graduates was 70.3 percent. By family income quartiles the rates were:

Bottom quartile:	53.8%
Second quartile:	66.0%
Third quartile:	75.0%
Top quartile:	85.3%

Here again is the very strong pattern of college participation by family income. Among high school graduates, college participation in the 18 to 24 year age range was lowest for those from lowest income families, and highest for those from highest income families. This pattern has persisted in every year of the 27 years of published Census Bureau data.

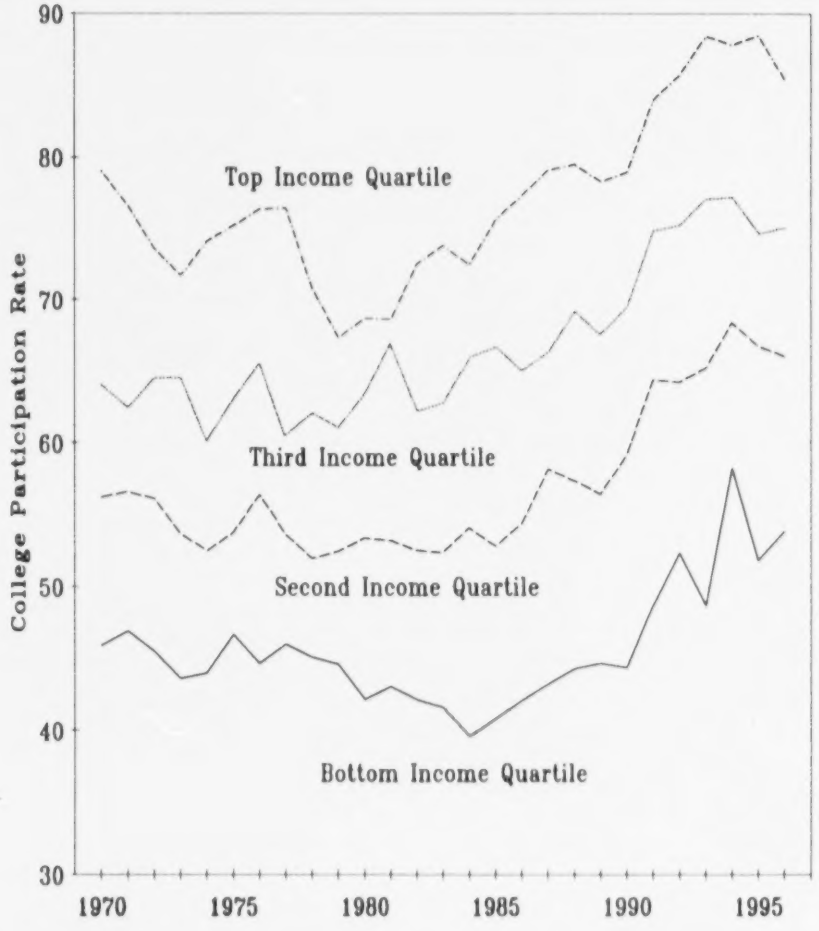
Moreover, this pattern further magnifies the previous disparities in educational attainment carried over from high school graduation because these numbers are limited to those who have graduated from high school. When we calculate chance for college by family income quartile for 1996, the following results:

	HSG	CPR	College Chance
Q1:	64.9%	53.8%	34.9%
Q2:	81.7%	66.0%	53.9%
Q3:	87.9%	75.0%	65.9%
Q4:	93.4%	85.3%	79.7%

Thus, about 35 percent of the unmarried 18 to 24 year olds from the bottom quartile of family income reach college, compared to 54 percent of those from the second quartile, 66 percent of those from the third quartile, and about 80 percent of those from the top family income quartile. (It truly behooves students to choose their parents wisely.)

The trends to the data on college participation are more interesting than the high school graduation rate data because these data fluctuate over time. Generally, college participation rates declined or were stable between 1970 and about 1980, and have increased sharply since then.

College Participation Rates by Family Income Quartiles for Unmarried 18 to 24 Year Old High School Graduates 1970 to 1996



While this pattern describes each family income quartile, the results do differ between quartiles. Between 1980 and 1996, college participation rates changed as follows:

	1980	1996	Change
Q1:	42.1%	53.8%	+11.7%
Q2:	53.3%	66.0%	+13.0%
Q3:	63.4%	75.0%	+11.6%
Q4:	68.6%	85.3%	+16.7%

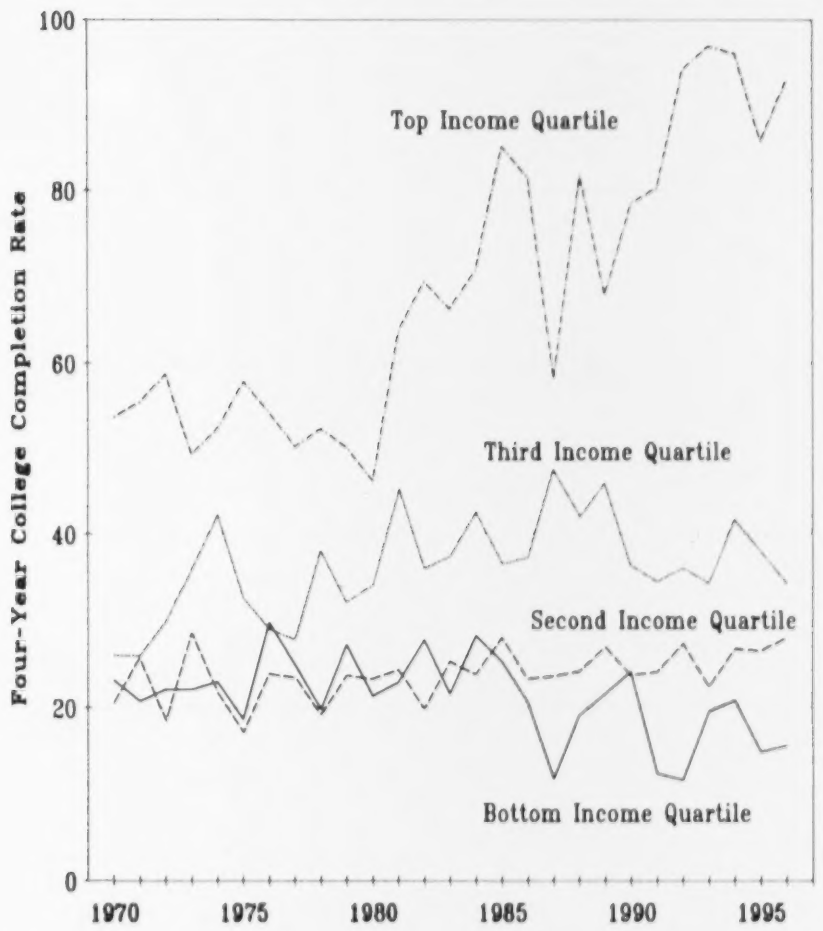
The largest gains in college access were at the highest levels of family income, with lesser gains at lower income levels.

Later in this analysis we will examine these differences between genders and across racial/ethnic groups.

College Completion Trends

The third and final hurdle on the path to a bachelor's degree is college completion. Those who start college must finish college to receive their degree. Many who start never finish, and many who start choose a lesser

Estimated Four-Year College Completion Rates by Age 24 by Family Income Quartiles for Unmarried College Students 1970 to 1996



degree than the baccalaureate.

College completion is very difficult to study because no two students complete their studies in quite the same way, and many students transfer from one college to another during their undergraduate studies. But these measurement difficulties pale by comparison to the far more difficult challenge of measuring college completion by family income quartiles during precisely those years when young adults are leaving their parents' households and setting up their own. Using the Census Bureau's CPS data to measure college completion by family income levels is very difficult and introduces a measure of error into what is otherwise straightforward data. Nevertheless, we plunge ahead trying to do so, and note our reservations about the results where they are apparent to us and others.

Here we are *estimating* bachelor's degree attainment by age 24. Our estimation method combines an element of the Census Bureau CPS data with a bachelor's degree attainment by age 24 factor from a six-year follow-up to the 1980 High School and Beyond study conducted by the National Center for Education Statistics.

The results of this estimation technique are shown in the chart on this page. In 1996 the estimated bachelor's degree attainment by age 24 among those who started college was:

Bottom quartile:	15.5%
Second quartile:	28.0%
Third quartile:	34.3%
Top quartile:	92.9%

Since 1980 there has been a huge increase in estimated four-year college completion rates, but only in the top quartile of family income. Between 1980 and 1996 by family income quartile, the changes have been as follows:

	1980	1996	Change
Q1:	21.3%	15.5%	-5.8%
Q2:	23.2%	28.0%	+4.8%
Q3:	34.0%	34.3%	+0.3%
Q4:	46.2%	92.9%	+46.7%

These estimates indicate that, once again, the changes were greatest at the extremes. At the lowest quartile of family income college completion declined, while at the highest quartile it appears to have doubled.

The accuracy of the magnitude of these estimates for the top family income quartile are uncertain. They appear to be unreasonably high for the top family income quartile only. However, independent evidence indicates that the directions of these estimates are quite likely correct.

College completion rates have probably increased in the top quartile, and declined in the bottom quartile of family income. The evidence comes from a variety of independent sources:

- ACT data on institutional graduation rates (OPPORTUNITY, August 1998) show increases in IGRs between 1988 and 1998 at highly selective colleges, declines

at all other levels of academic selectivity, with the greatest declines among the least selective colleges. Because of the high correlation between academic selectivity criteria and family income, this implies that IGRS have increased for those from highest family income backgrounds and declined for those from lowest income families.

- Data for the American College Freshman annual survey collected and reported by the UCLA Higher Education Research Institute indicate that freshman enrollments classified by estimated parental income have been redistributed across institutions between 1980 and 1996. This redistribution is complex, but freshmen from the top family income quartile are increasingly concentrated in highly selective public and private 4-year colleges and universities, and decreasingly represented in public 2-year colleges. Students from low- and middle income quartiles are increasingly concentrated in less selective institutions, and in public 2-year colleges.
- The HERI data on college freshmen have always shown that financial concerns are greatest among the lowest family income freshmen, and least among those from most affluent families. About 40 percent of those from lowest family income backgrounds do not expect to be able to complete their higher educations due to financial concerns, compared to about 2 percent of those from the highest family incomes. The cost shift from taxpayers to students since 1980 can be expected and appears to have affected educational opportunity mainly for those from lowest family income backgrounds.

Our best guess--and it is only that--is that college graduation rates by age 24 for those from the top quartile of family income are probably closer to 60 to 70 percent than the 93 percent estimated here.

Baccalaureate Attainment Trends

To receive a bachelor's degree, a student must have successfully reached three milestones: high school graduation *and* college participation *and* college completion. Our measurement here ends at age 24.

Our estimates of the proportion of the population earning a bachelor's degree by age 24 by family income quartile are shown in the chart on page 1 of this issue of OPPORTUNITY. This is the mathematical product of the high school graduation rate, times the college participation rate for high school graduates, times the estimated college completion rate by age 24 for those who enter college.

In 1996 our estimates of the proportion of each quartile completing the bachelor's degree by age 24 is as follows:

Bottom quartile:	5.4%
Second quartile:	15.1%
Third quartile:	22.6%
Top quartile:	74.0%

If we adjust the estimate for the top quartile for what we believe is an over estimate of college completion in the top quartile of family income, a somewhat better estimate is probably about 52 percent.

What these trends describe are two distinct eras over the last 27 years. The first era spans 1970 through about 1980 when the large gaps in educational attainment were closing. In 1970 a student from the top quartile of family income was about six times more likely to have earned a bachelor's degree by age 24. By 1980 this gap had closed to the point that the top family income quartile student was about four times more likely to have the bachelor's by age 24 than was the bottom family income quartile student.

The second era spans the years 1980 through 1996. This has been the era of growing inequality of educational attainment--a reversal of the gains made in the 1970s. By the mid 1990s the student from the top quartile of family income was about ten times more likely to have completed his or her bachelor's degree by age 24 than was the student from the bottom quartile of family income.

By the mid 1990s, higher educational attainment has become more unequally distributed across family income levels than it has been at any time in the 27 years for which the Census Bureau has published its data.

The cause for this reversal of the social policy to expand higher educational opportunity from the 1960s and 1970s is clearly the collapse in state investment in higher education since 1980. The costs of higher education have been shifted from state taxpayers to students *without regard to the financial resources of students and their families to pay the higher student charges that result.* During an era of flat median family incomes, the real costs of higher education expected of students and their parents have increased sharply.

We have examined and reported on the cost shift from taxpayers to students repeatedly in recent issues of OPPORTUNITY.

- In November 1997 using *Grapevine* data we estimated the reduction in state support for higher education to be $23.1 billion between FY1979 and FY1998.
- In February 1998 using data from the National Income and Product Accounts we estimated that between 1980 and 1996, state taxpayers had reduced their share of support for higher education by $16.3 billion, federal taxpayers reduced their share of support for higher education by $1.5 billion, and students had increased their

share by $17.8 billion.

OPPORTUNITY will continue to examine and report on this cost shift from taxpayers to students later this fall and early next year as FY1999 appropriations data become available.

Patterns in High School Graduation

Here we examine higher educational opportunity for one year--1996--in more detail. The details consist of finer breakdowns of family income and subsets of the population, namely gender and race/ethnicity. This analysis begins with high school graduation, the first milestone on the path to college graduation.

In 1996 high school graduation rates ranged from 54 percent for dependent family members from families with incomes below $10,000 to 94 percent for students from families with incomes of greater than $75,000. As the earlier data have shown, high school graduation rates are lowest at the lowest family income levels, and highest at the highest family income levels.

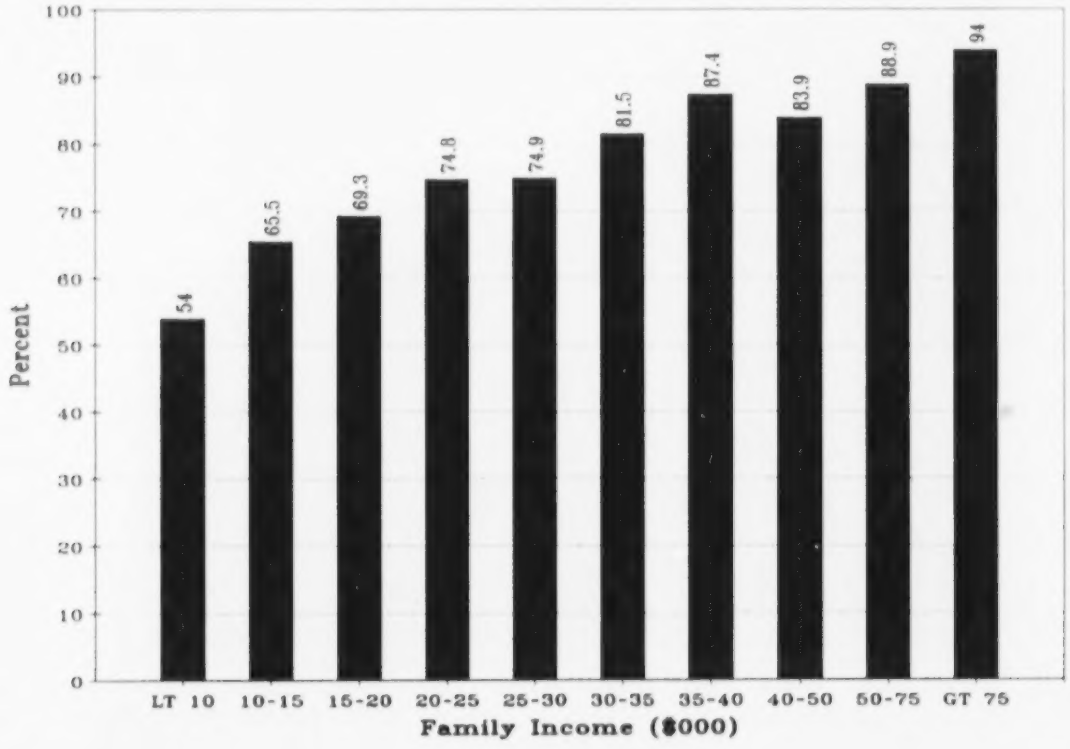
The same pattern holds when high school graduation rates are broken down by gender. However, at each level of family income, high school graduation rates are higher for females than they are for males. This difference is greatest among those from family incomes below $20,000, and least for those from families with incomes above $40,000. This implies important gender differences in the appreciation of education, especially for males from low income families.

By race and ethnicity, additional important differences emerge. Across most levels of family income, high school graduation rates are highest for Asian students and lowest for Hispanic students.

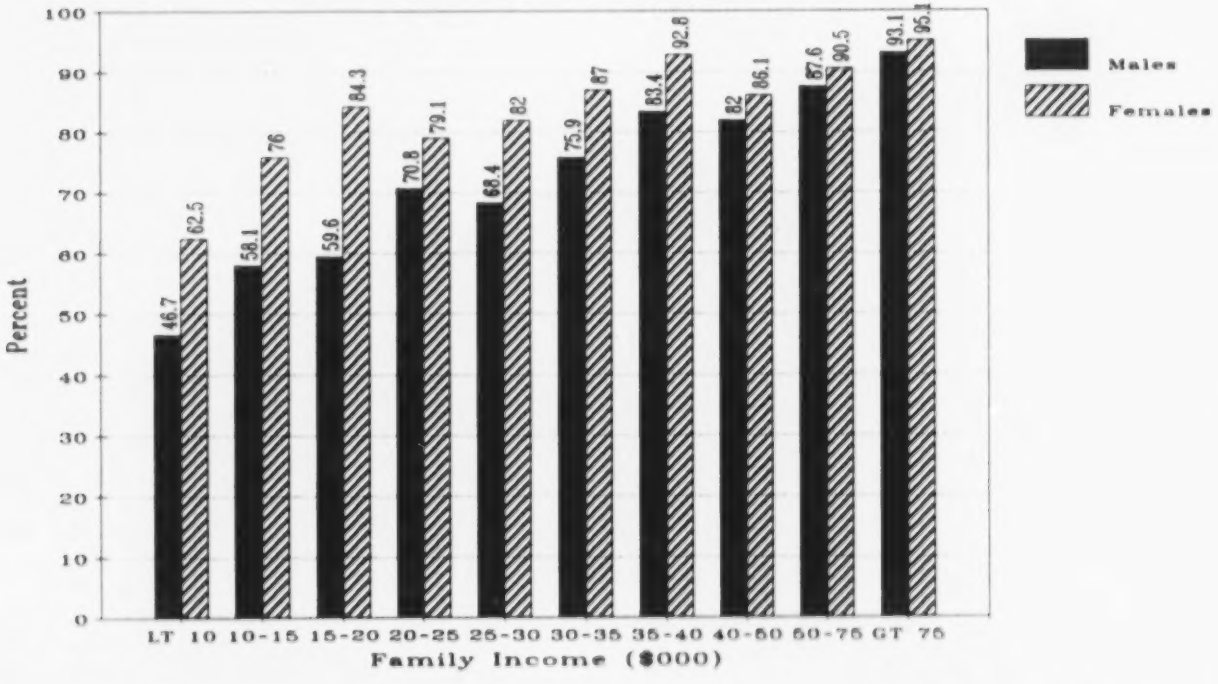
For example, controlling for family income, high school graduation rates were 6.7 percentage points greater for Asians than they were for whites. Again controlling for family income, the high school graduation rate for blacks exceeded the rate for whites by 1.9 percentage points. However, for Hispanics, the high school graduation rate at each level of family income averaged 9.9 percentage points below the rate for whites.

This too implies different cultural valuations placed on education. When family income is accounted for, high school graduation is more important to females than it is to males, and more important to Asians and blacks than it is to whites. Hispanics lag whites in appreciating high school graduation by a wide margin.

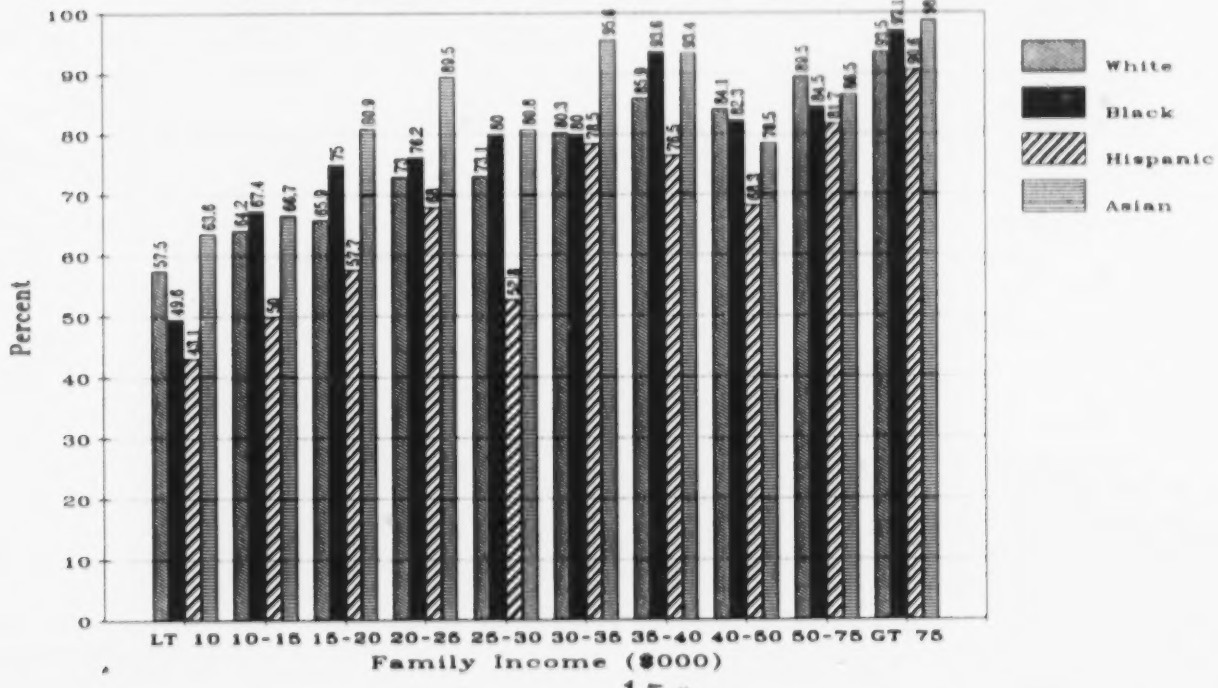
High School Graduation for Dependent Family Members
Age 18 to 24, 1996



High School Graduation for Dependent Family Members by Gender, Age 18 to 24, 1998



High School Graduation for Dependent Family Members by Race/Ethnicity, Age 18 to 24, 1998



Patterns of College Participation

For those that graduate from high school, the second milestone on the path to a bachelor's degree is college enrollment. Some make it, others don't, and family income again differentiates those who enter college from those who do not.

In 1996 about 50 percent of dependent family members ages 18 to 24 who were high school graduates from family income backgrounds of less than $10,000 enrolled in college. By comparison, about 87 percent of those from family incomes greater than $75,000 made it to college. Thus, the differences in high school graduation across family income levels widened further at the point of college participation.

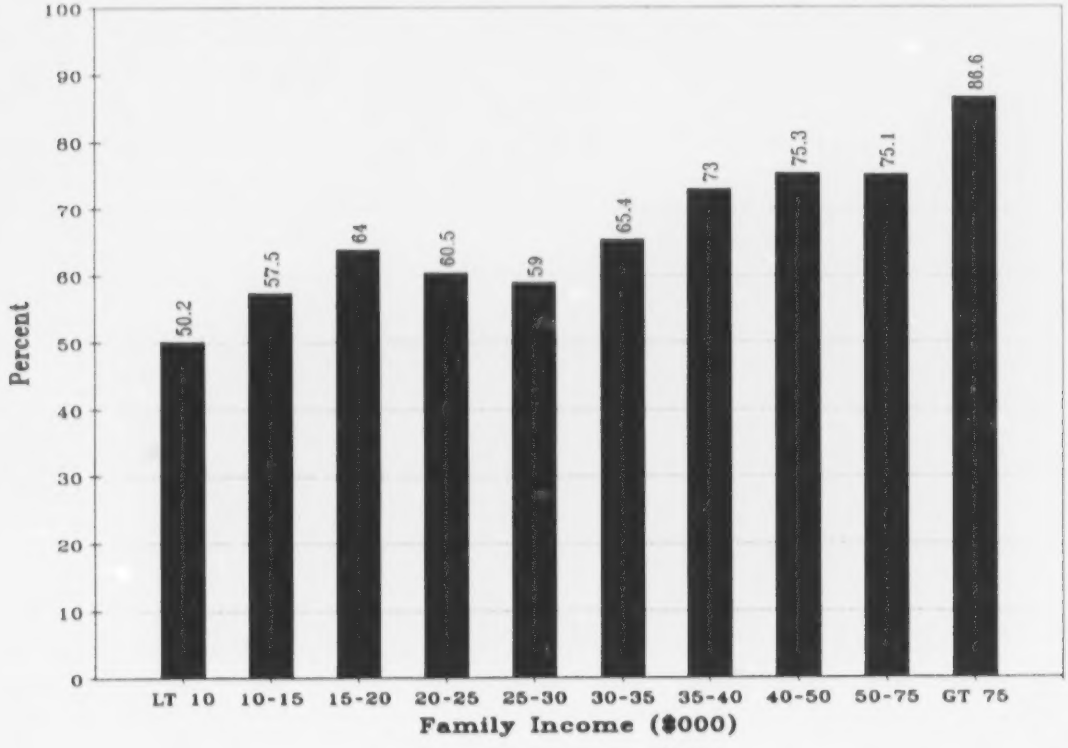
College participation rates increased with family income for both males and females. However, once again as with high school graduation, at every level of family income, college participation rates were greater for females than they were for males. These differences were greatest for those from families with incomes below $20,000 in 1996.

College participation rates also tended to increase with income across the four racial/ethnic groups. The lone exception was among those of other race--mainly Asians-- where college participation rates were actually higher for Asians from families with incomes less than $10,000 (85.7 percent) than they were for Asians from families with incomes of greater than $75,000 (81.6 percent). (This could be a statistical anomaly because of the very small numbers of Asians in the CPS sample. However, income appears to have less of an influence on college enrollment for Asians than it does for any other racial/ethnic group).

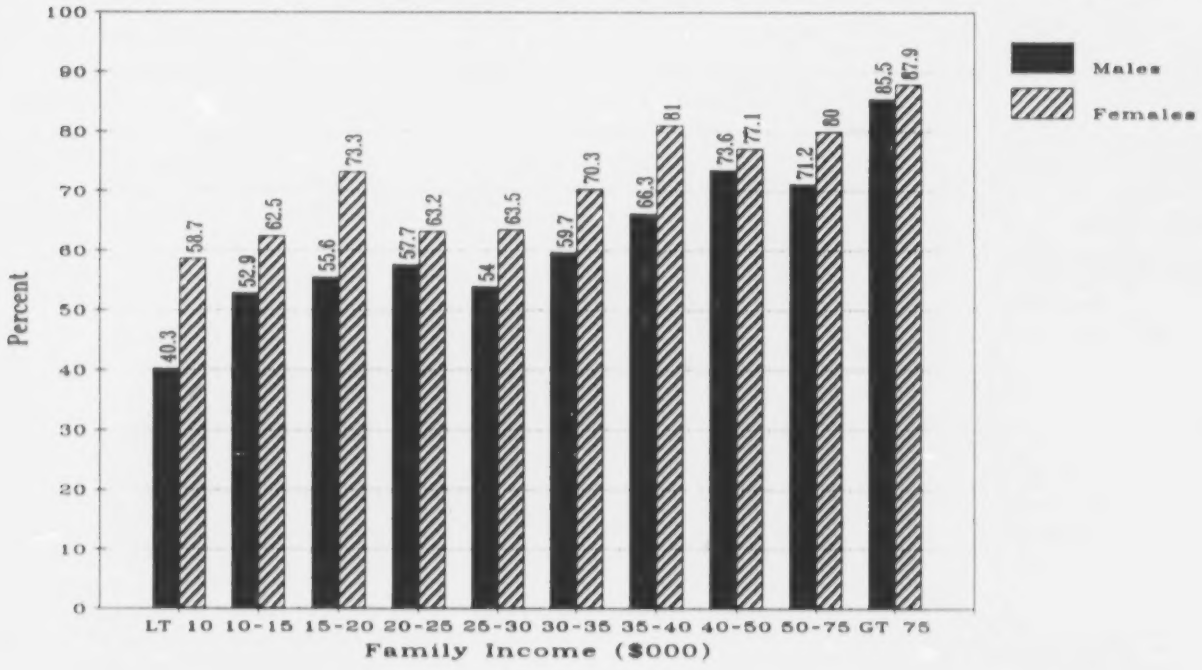
Controlling for family income, the college participation rates for black high school graduates averaged 6.7 percent less than those for whites. College participation rates for Hispanic high school graduates averaged 2.3 percent less than whites when family income differences were controlled. But for Asian high school graduates, college participation rates averaged 13.8 percent greater than those for whites when family income was controlled.

These data indicate that while family income (and whatever else it measures) is an important influence on college participation, other factors are highly influential as well. Whatever these other influences are, women have more of it than men do, and Asians have much more of it than do whites, blacks and Hispanics.

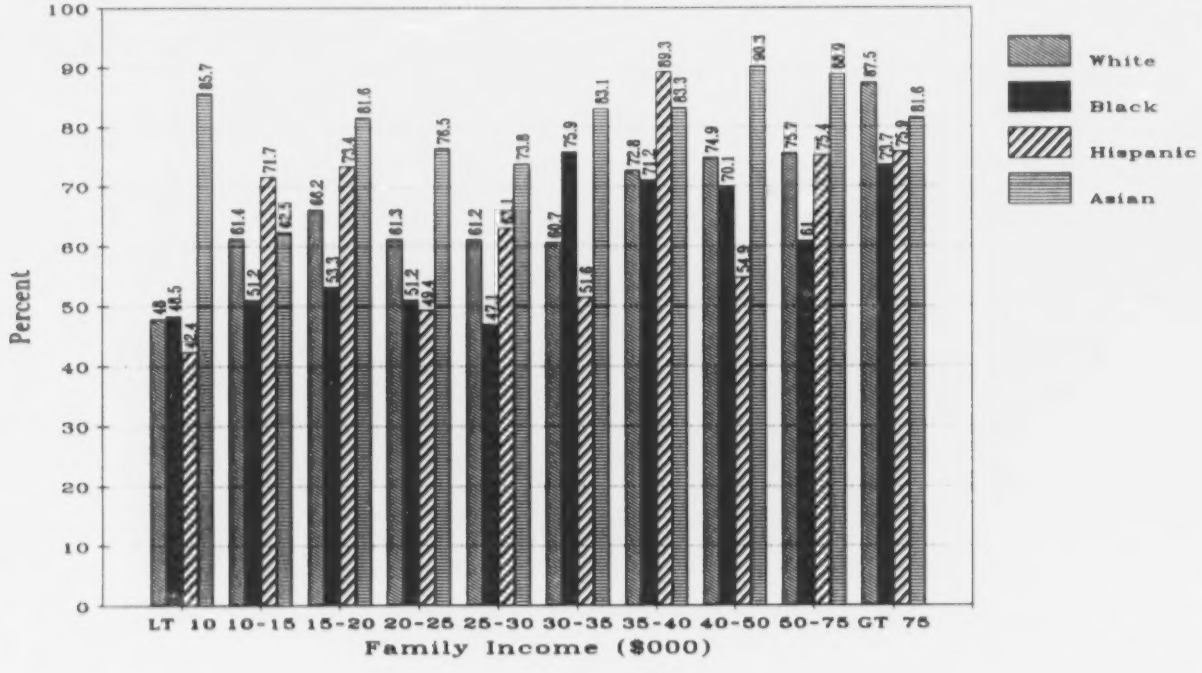
College Participation for Dependent Family Member
High School Graduates Age 18 to 24, 1996



College Participation for Dependent Family Member High School Graduates by Gender, Age 18 to 24, 1996



College Participation for Dependent Family Member High School Graduates by Race/Ethnicity, Age 18 to 24, 1996



Patterns in Chance for College

To reach college a student must both graduate from high school and then enroll in college. We call this chance for college. At each level of family income, we multiply the high school graduation rate by the college participation rate to get the chance for college. What this does is magnify the disparities in educational attainment across levels of family income.

In 1996 the range in chance for college was from about 27 percent for those from family incomes below $10,000 to about 81 percent of those from families with incomes greater than $75,000. The student fortunate enough to be born into a high income family had about three times greater chance of reaching college than was another student born into a very low income family.

By gender, all of the previous differences between males and females at all levels of family income are further magnified. At every level of family income, women far surpass men in their chance for reaching college by ages 18 to 24. These difference are huge--nearly two-to-one--at family income levels below $20,000 per year. These differences decline somewhat with increases in income, but are always large.

By race and ethnicity, the previous patterns are carried over and magnified. At every family income level (except the highest) Asians have a far greater chance for reaching college than any other group. Blacks and Asians generally lag whites.

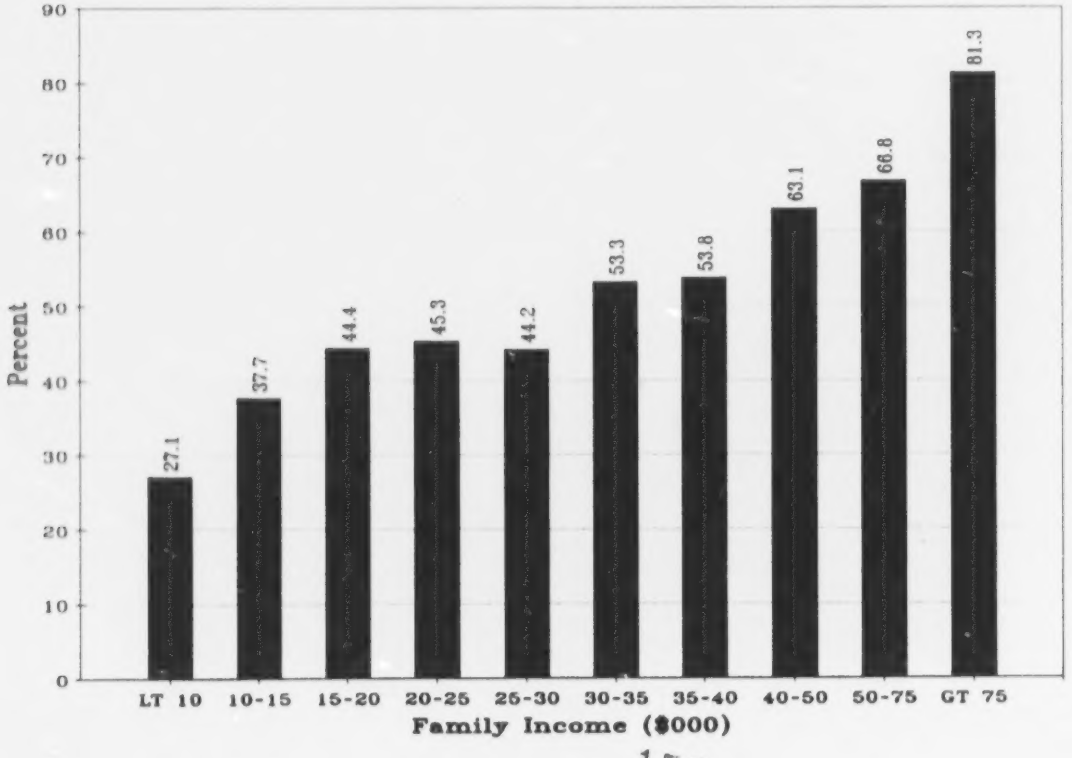
Remember here that we have controlled for family income, which is the focus of federal Title IV programs created to equalize opportunities for higher education. While these programs address obvious limitations in family resources to pay college attendance costs, they appear to miss important influences on educational attainment. Whatever it is, women have more of it than men do, and Asians have much more of it than do whites, blacks and Hispanics.

Other Patterns

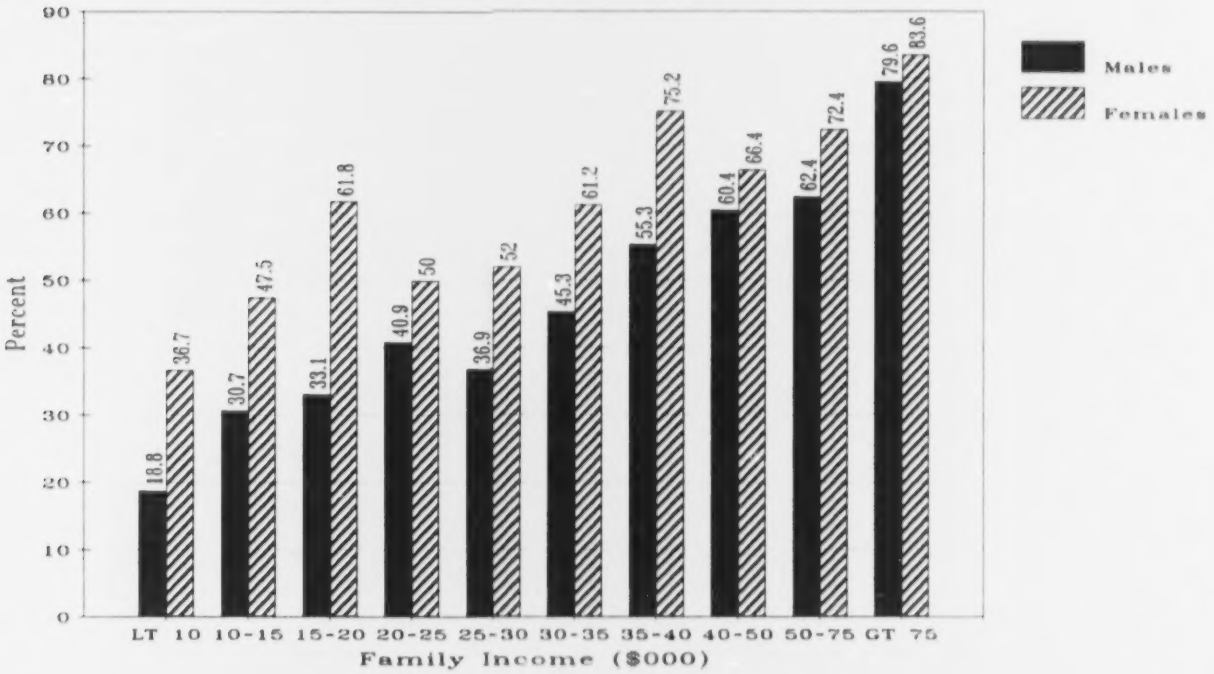
Among those enrolled in college, there are several useful descriptions of variations in college attendance patterns across levels of family income in the Census Bureau data. We describe four here.

Gender distribution. Of those enrolled in college, the gender distribution shifts from females to males with increases in family income. Up to about $35,000 of family income, about 40 percent of enrolled students are

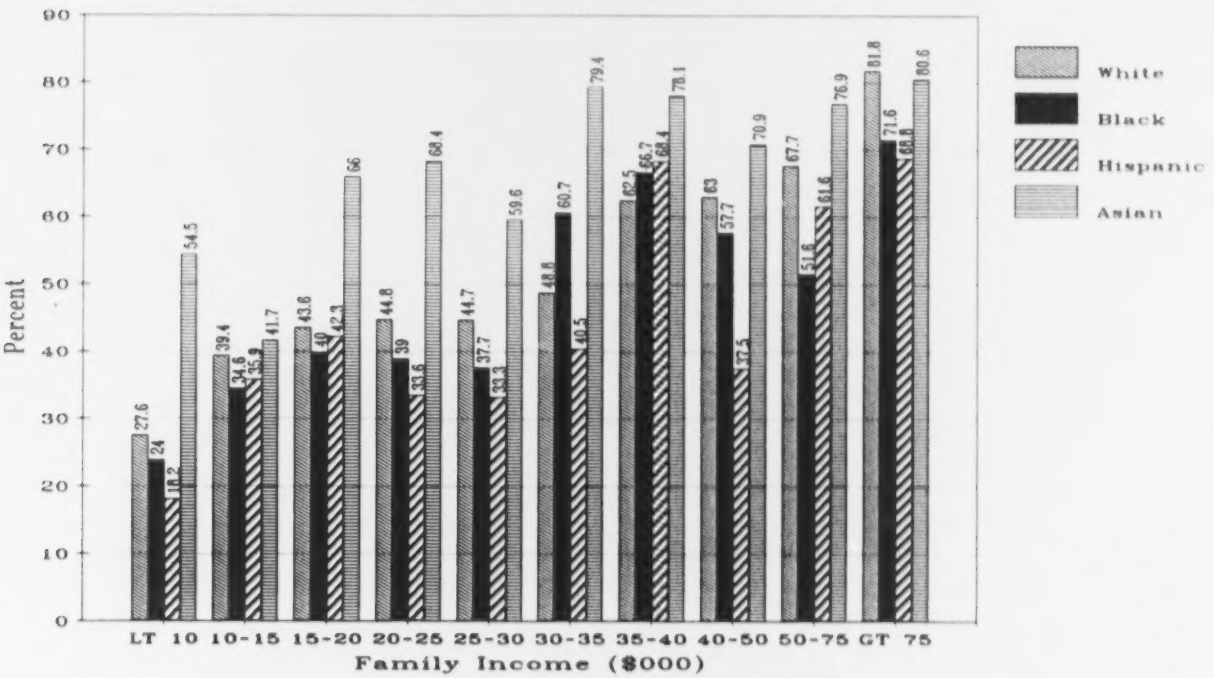
Chance for College for Dependent Family Members
Age 18 to 24, 1996



Chance for College for Dependent Family Members by Gender, Age 18 to 24, 1996



Chance for College for Dependent Family Members by Race/Ethnicity, Age 18 to 24, 1996



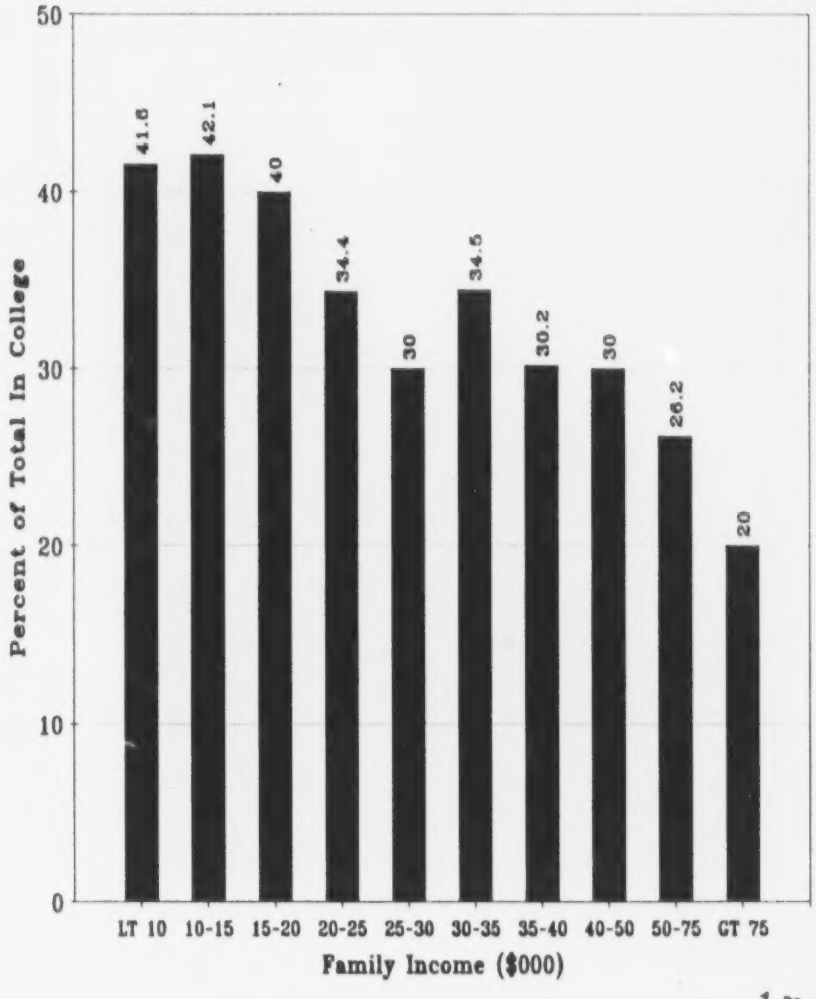
males, and 60 percent females. Between $35,000 and $75,000 of family income, the gender distribution is very close to 50/50. Above $75,000 in family income, 54 percent of college students are male and 46 percent female.

Full-time/part-time. Across most levels of family income, including both lowest and highest, about 84 to 89 percent of students were enrolled in college full-time. Only in the $15,000 to $20,000 range did full-time student enrollment drop below 70 percent.

Public/private. Up through about $50,000 of family income, about 90 percent of college students were enrolled in public institutions. Above $50,000, this dropped to 78 percent between $50,000 and $75,000, and to 75 percent for students from families with incomes above $75,000.

Four-year/two-year. Here there was a clear relationship between income and type of institution attended. Up to $20,000 of family income, over 40 percent of college students were enrolled in two-year colleges. Then between $20,000 and $50,000, this dropped to about 30 percent. At higher levels of family income this dropped further: above $75,000 of family income, 20 percent of college students were enrolled in two-year colleges.

Enrollment in 2-Year Colleges for Dependent Family Member Ages 18 to 24 Years, 1996



Summary and Conclusions

Whether to reduce poverty or equalize opportunity or meet economic development needs, federal higher education policy and programs have until recently been focused largely on students from low income family backgrounds. This analysis of recently released Census Bureau data provides a sobering assessment of how well we have achieved these ends.

Financial aid policy--federal, state and institutional--seems to be reversing historical commitments to low income students. Georgia's HOPE Scholarship program was the first major program to explicitly exclude low income students from program eligibility. The 1996 federal Hope and Lifetime tax credits take this national: these tax credits deliberately exclude low income people from eligibility because they are not available to people whose incomes are so low that they pay no federal taxes. Many other recent initiatives--loans, needs analysis, college savings, merit-based aid, enrollment management, and others--dilute program focus and resources from social welfare objectives.

In this constantly evolving policy forum, this report analyses the distribution of educational progress and attainment across levels of family income. The results indicate we have been moving aggressively away from the announced objectives of educational policy for nearly two decades. The failures of underfunded and misdirected policy initiatives cannot be hidden. And the consequences do come home to roost.

An International Comparison: Employment Change Among Industrial Sectors Based on Educational Attainment

Where job creation is an issue in national economic development, higher education plays an increasingly important role. Those economies that are creating jobs at the fastest rates have the highest shares of college educated workers. Higher education makes direct contributions to economic development as measured by job creation.

Moreover, those industrial sectors of national economies which have the largest shares of employment of college-educated workers are growing at much faster rates than are industrial sectors that have low levels of college graduate employment. This is true in the United States, Japan, France, West Germany, Italy and the United Kingdom.

These are among the many important findings reported by the Bureau of Labor Statistics from international comparisons of employment growth using data gathered by the Organization for Economic Cooperation and Development.

"Employment Growth Among Sectors in the United States, Japan, and Europe Based Upon Educational Attainment." July 1998. *Issues in Labor Statistics.* Washington, DC: Bureau of Labor Statistics.

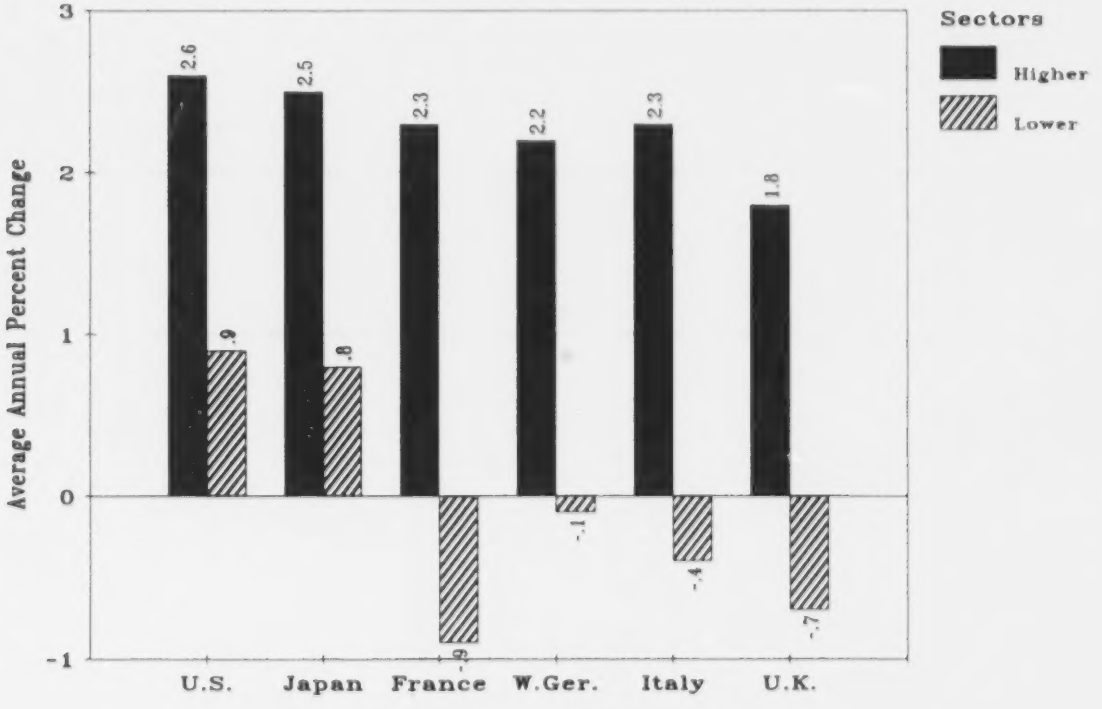
What these data convey is the importance of higher education's contribution to job creation in the world's major industrial economies.

Employment Growth

Between 1980 and 1996, the United States increased employment by 27.6 percent, from 99,303,000 jobs to 126,708,000. By comparison, Japan increased employment by 17.6 percent and Europe increased employment by just 3.1 percent during this period.

By these measures, the U.S. economy is a job-creation engine. What accounted for the difference between job creation in the U.S. with Japan and Europe? The differences are to be accounted for in the industrial composition of each country's economy. In the United States, 47.4 percent of employment was in industrial sectors where 30 percent or more of employees have college

Employment Growth by Higher and Lower Educational Attainment Sectors 1980 to 1996



degrees. By comparison, in Japan 33.9 percent of employment was in industries where 30 percent or more of employees had college degrees. Moreover, the proportion of employment in industries most dependent on college graduates increased less in Japan between 1980 and 1996 than in any of the major industrial economies studied by BLS.

All of the European countries also had less employment in the higher education-driven industrial sectors than the United States. By countries, the proportions were: France 46.7 percent, West Germany 38.2 percent, Italy 36.9 percent and United Kingdom 45.1 percent. However, In France, Italy and the United Kingdom, the rate of growth in employment in the higher education-dependent industrial sectors was greater than it was in the United States between 1980 and 1996.

Notably, in every major industrial country average annual employment growth was far greater in the industrial sectors where more than 30 percent of employees had college degrees than in other industrial sectors where less than 30 percent of employees had college degrees. In every industrial economy, higher education is spurring job creation.

In only the United States and Japan was there any job growth at all between 1980 and 1996 in industrial sectors with less than 30 percent college graduates. In these countries the rate of employment growth in the higher education-driven sectors was about three times greater than in the sectors least dependent of college educated workers.

In Europe all four industrial economies saw absolute job loss in industrial sectors where less than 30 percent of the employees had college degrees. The rate of job loss was greatest in France and the United Kingdom.

The message here is simple: throughout the industrial world jobs are being created--and economic growth is occurring--in industrial sectors most dependent on college-educated workers. There is little, if any, job growth occurring in industrial sectors least dependent on college-educated workers.

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 76 | Oskaloosa, Iowa | October 1998

Men behaving badly . . .

Where Are the Guys?

Males are in serious trouble in higher education. Males are disappearing. While this conclusion may not be politically correct in a world that thinks of women as victims, in fact any analysis of education data--*any analysis*--shows progress for females and lack thereof for males.

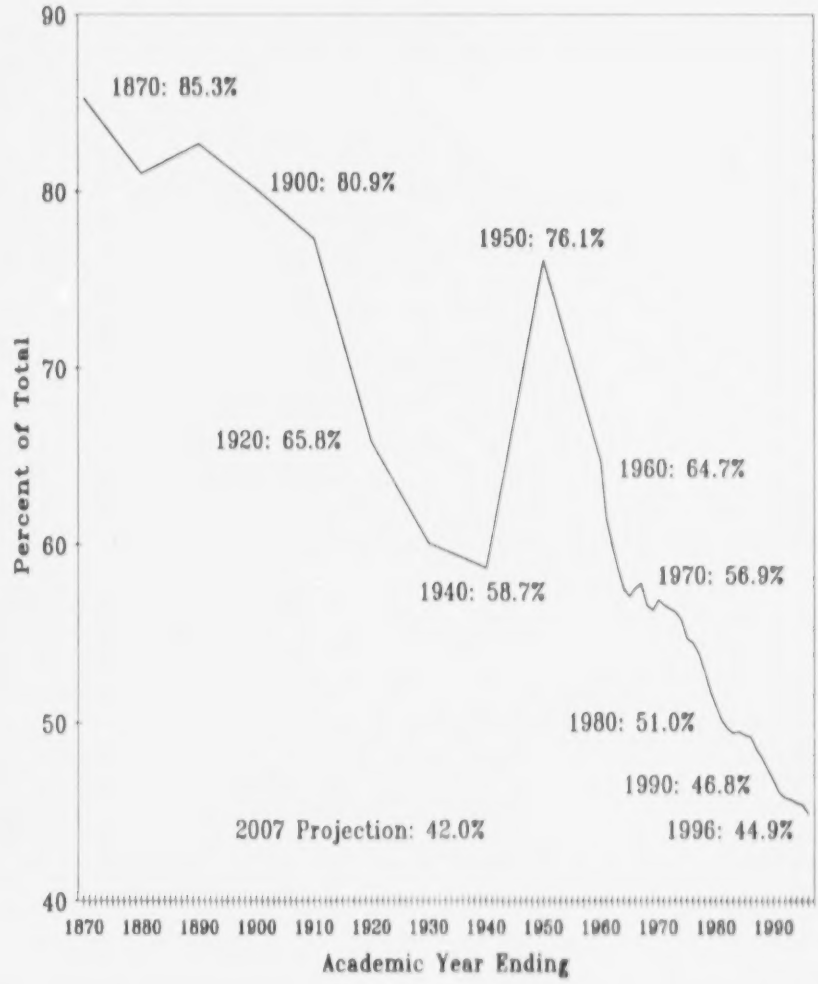
The long term trend--spanning the years from 1870 through 1996--indicates that males will disappear from higher education in the year 2163. That is to say, if the underlying trend that has persisted over the last 126 years continues, all bachelor's degrees awarded in the year 2163 will go to females. There will be no males in the graduation line.

The more recent trend--from 1970 through 1996 paints a considerably starker picture. Between 1970 and 1996 the proportion of bachelor's degrees awarded to males has dropped from 56.9 to 44.9 percent. If this accelerated decline persists, the graduation line in the year 2068 will be all females. Within the lifetimes of children born this year, males will disappear from higher education.

Particularly during the last three decades, females have made dazzling progress in education.

- This progress begins early, in K-12 education, as measured by performance on the tests of the National Assessment of Educational Progress.
- High school graduation rates for females now are greater than those for males.

Proportion of Bachelor's Degrees Awarded to Males
1870 to 1996



- College continuation and participation rates for female high school graduates have moved well beyond those for males.
- College completion rate for those who start college are now greater for females than they are for males.
- As a result of these growing gaps at every stage in the education

pipeline, women substantially outnumber males in the graduation lineup to receive earned baccalaureate degrees.

- These trends are projected to continue over the next decade, with the proportion of bachelor's degrees awarded to women rising from 55 percent in 1995-96 to about 58 percent by 2008.

This progress for women has diverted our attention from the lack of progress by young males during this same time period. Young males seem to be caught in a time-warp. They appear, at the margin, to be oblivious to the huge economic returns to their college educations that await those who go to college and graduate. They appear to not be aware that the economic world in general and the labor market for their adult services require more and better education than males have ever earned before.

On the one hand we rejoice at the well earned accomplishments of young women. On the other hand we all--including women--ought to be profoundly disturbed by the failure of young men to keep pace, to prepare for the world in which most will assume adult roles.

If all women college graduates choose to marry after college, two out of three of those in college today will not find a male college graduate to marry. They won't be there. In one generation we will have moved from women "marrying-up" in education to women "marrying-down." This new family pattern has the most profound implications.

In this analysis, we update and extend our first attempt to draw attention to this issue in the September 1995 issue of OPPORTUNITY. As we continue to monitor educational data by gender, we learn more. Our discussions with others concerning this issue have added more to the concern side of the ledger than to the understanding and solutions side.

Some colleges and programs admit to practicing a de facto form of affirmative action to try redress the growing gender imbalance. But this raises the uncomfortable prospect of prepared, talented and motivated young women being denied opportunity to preserve space for a less motivated, less talented, less prepared young male. This prospect makes most of us squirm, as it should.

We are stuck here in this analysis without good answers. While questions abound in these data, the few apparent solutions leave us very uncomfortable. In the nature versus nurture debate where we hope to find educational answers to most significant social issues, we are left with an aching suspicion that many young males will not and cannot take advantage of the same educational opportunities currently available to and exploited by young females.

The world we are currently making will be inevitably a very different one than the one we have known unless and until the educational problems of young males are taken seriously. That has not yet happened. Compared to females, the educational situations of young males continues to deteriorate at an accelerating rate.

The Data and Analysis

The data examined in this analysis come primarily from the National Center for Education Statistics (NCES).

We begin at the end, at the point of the awarding of baccalaureate degrees to men and women. The intervening steps of high school graduation, college continuation and college persistence to completion were more fully addressed in our September 1995 analysis in OPPORTUNITY. This

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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analysis should accompany that assessment.

Here we examine broad trends and patterns in the distribution of bachelor degrees awarded to males. The initial analysis is of the very long-term trend over the last 127 years, from 1870 through 1996. Subsequent analyses are much shorter, usually spanning more recent history from 1970 through 1996. Trends in the proportion of bachelor's degrees awarded to males are by state, by institutional control, by race/ethnicity and by field of study.

For reference, males are compared to females. This reference highlights both the progress of females as well as the relative lack of progress for males. While not wanting to deflect attention from the real progress made by females, our concerns are focused squarely on the lack of progress of males.

Long Term Trends

With the exception of the extraordinary disruption caused by World War II and the GI Bill incentives for military veterans to enroll in college following military discharge, the trends are clear and consistent (as shown in the chart on page 1). Since 1870, the proportion of bachelor's degrees awarded to women has increased and the proportion awarded to men has shrunk.

In fact most of the fluctuations in this trend appear to be the effects of war. Take wars out of this picture and the long term trend becomes even clearer.

Beginning in 1870 (only because that is when the federal government begins collecting these data), 85.3 percent of all bachelor's degrees were awarded to males. One hundred years later, in 1970, this had shrunk to 56.9 percent.

In 1982, for the first time in history, more women received bachelor's degrees from college than men: 50.3 compared to 49.7 percent.

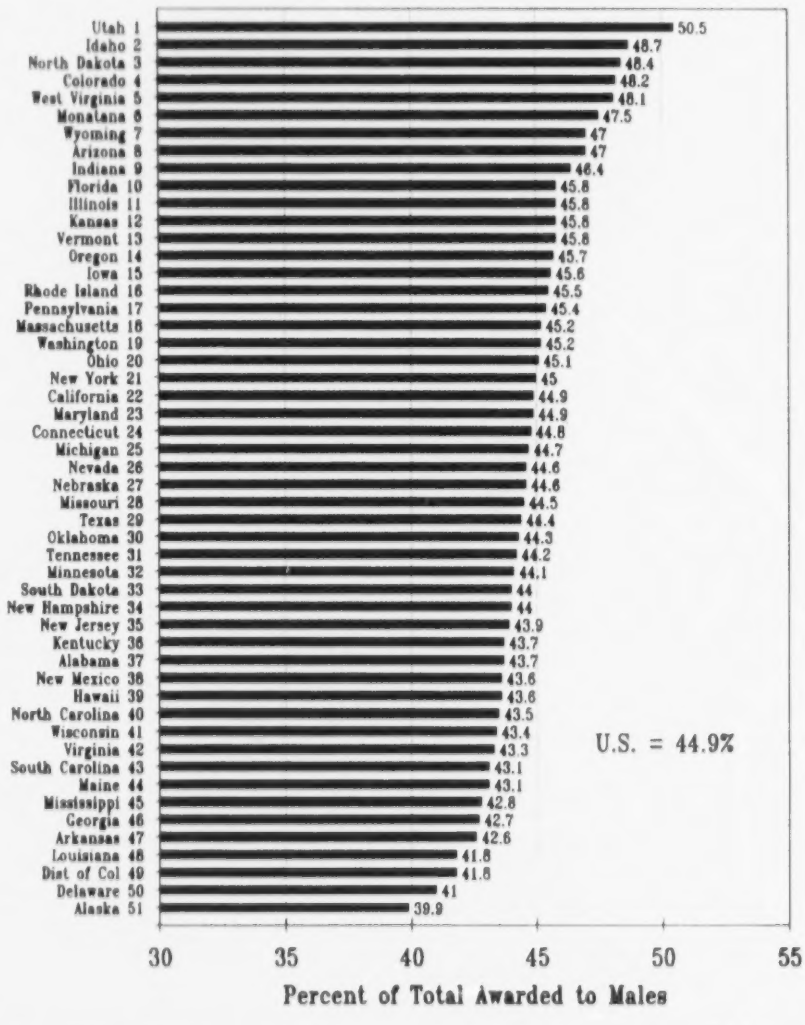
And the downward slide for males continued. By 1990 46.8 percent of the bachelor's degrees went to males and by 1996 to 44.9 percent. The most recent NCES projections of bachelor's degree recipients projects that by 2007 the proportion will decline further to 42.0 percent.

State Comparisons

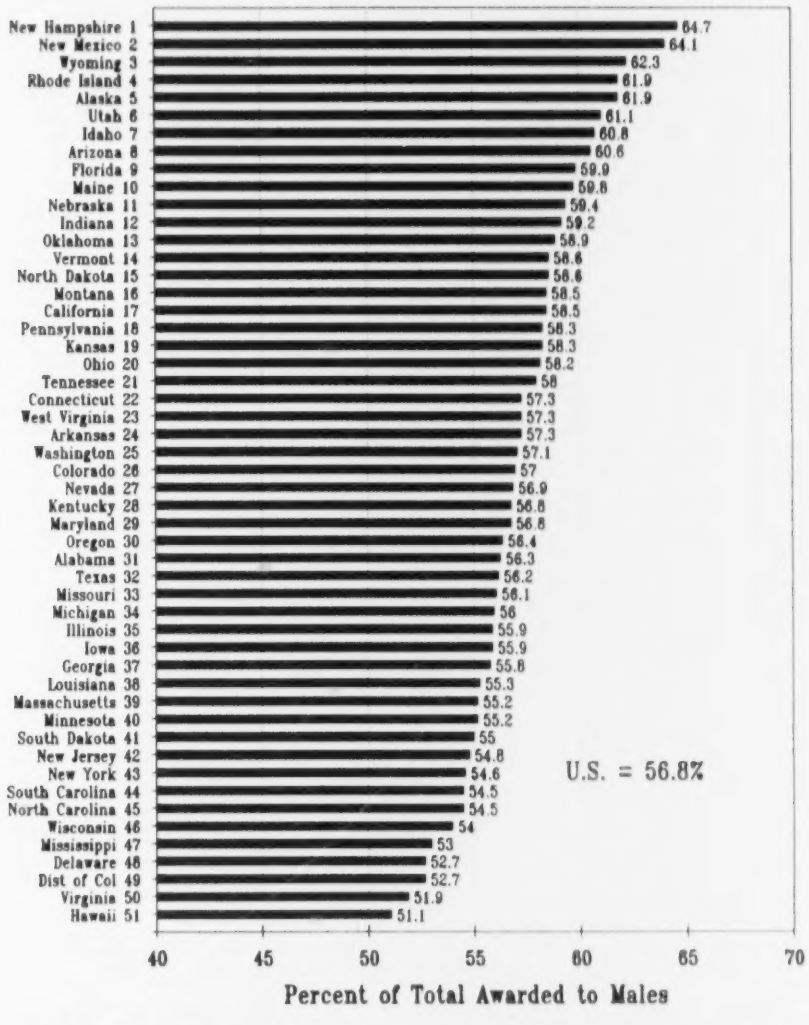
In 1995-96, there were 522,454 bachelor's degrees awarded to males and 642,338 awarded to females by colleges and universities in the United States. The number for males was down by 3068 degrees from the previous year, while the number for females was up by 8623 degrees.

In 1996 in only one state--**Utah**--were more bachelor's degrees awarded to males than to females. In Utah 50.5 percent went to males, and 49.5 percent were awarded to females. These data are shown in the chart on this page.

Male Bachelor Degrees by State, 1995-96



Male Bachelor Degrees by State, 1969-70



In all of the other 49 states plus the District of Columbia, more than half of all bachelor's degrees were awarded to females. In one state--**Alaska**--just 39.9 percent of the bachelor's degrees were awarded to males.

Except for Utah and perhaps Idaho where Mormon influence is strong, we do not see apparent patterns in these data that invite hypotheses nor even speculation. The states near the top of this list are often western states, but not entirely. The states near the bottom of this list are often southern, but not entirely. Like much of the data shared here, there are more questions than answers

In 1970, by comparison, all 50 states plus the District of Columbia reported more bachelor's degrees awarded to males than to females. The proportions of bachelor's degrees awarded to males ranged from a high of 64.7 percent in New Hampshire to 51.1 percent in Hawaii. For the United States, the figure was 56.8 percent of bachelor's degrees awarded to males.

Again we fail to see strong geographic patterns in the data for 1970. Many of the states with the highest proportions of bachelor's degrees awarded to males were western states, but not all. Many of the states with the lowest proportions of bachelor's degrees were southern states, but there were northern states here too.

Between 1970 and 1996, the proportion of bachelor's degrees awarded to males shrank from 56.9 to 44.9 percent of the degrees awarded. The decline occurred in every one of the 50 states plus the District of Columbia.

While the magnitude of the declines varied, they were all large. They ranged from -22.0 percent in **Alaska** to -7.5 percent in **Hawaii**. Besides Alaska, two other states had declines of more than 20 percent: **New Hampshire** and **New Mexico**. In addition to Hawaii, the states with declines of less than 10 percent between 1970 and 1996 were **Virginia, Colorado, West Virginia** and **New York**.

Again, we fail to see consistent, major geographic patterns or trends to these data. The changes were significant and widespread. The trends are occurring in all 50 states.

Fields of Study

Historically, some fields of baccalaureate study have been dominated by males, such as engineering, agriculture, architecture and business. Other baccalaureate fields of study have been dominated by females, such as health professions, education, foreign languages and literature, and English.

But while the above was true in 1970, it is considerably less true by 1996. The share of bachelor's degrees awarded to males has greatly shrunk in nearly all of the traditionally male study fields.

- In **business**, the number of bachelor's degrees awarded to males increased from 96,346 in 1970 to 116,842 by 1996, an increase of 20,496 degrees or 21 percent. During the same period the number awarded to females increased from 9234 to 110,260, an increase of 101,026 degrees or 994 percent. The proportion of bachelor's degrees awarded to males declined from 91.3 to 51.4 percent.
- In **agriculture**, the number of bachelor's degrees awarded to males increased from 12,136 in 1970 to 13,535 in 1996, an increase of 1399 degrees or 12 percent. During the same period the number awarded to females increased from 536 to 7896, an increase of 7360 degrees or 1273 percent. The proportion awarded to males declined from 95.8 to 63.2 percent.
- In **architecture** the number of bachelor's degrees awarded to males increased from 3888 to 5340 between 1970 and 1996, an increase of 1452 degrees or 37 percent. For women the increase was from 217 to 3012, an increase of 2795 or 1288 percent. The proportion of degrees awarded to males declined from 94.7 to 63.9 percent.
- Even in crusty old **engineering**, the traditional boot-camp of higher education, women have made gains. Between 1970 and 1996, while the number of bachelor's degrees awarded to males increased from 44,149 to 64,956, or by 47 percent, the number awarded to females increased from 623 to 12,347, or by 1882 percent.
- In **psychology** the number of bachelor's degrees awarded to males increased by 740 for males, and by 38,872 for females.

This kind shift occurred in all fields historically dominated by men. In the fields historically dominated by women, there has been little or no gender shift. In **education**, for example, 25.0 percent of all degrees were awarded to males in 1970 and 24.9 percent by 1996. Similarly, little or no change has occurred in **visual/performing arts**, **English**, **health professions**, and **foreign languages and literature**.

Males received three-quarters or more of the bachelor's degrees only in engineering and computer/information science in 1996. They have lost that degree of dominance in physical sciences, architecture, agriculture and business.

Change in Bachelor's Degrees Awarded to Males by State 1969-70 to 1995-96

Race and Ethnicity

The breadth of the decline in the share of bachelor's degrees awarded to males extends to racial and ethnic classifications of the population as well. Across all such classifications there has been a steady and substantial decline in the share of bachelor's degrees awarded to males over the last two decades. For every racial/ethnic group the largest shares of bachelor's degrees were awarded to males in 1977 and the smallest shares went to

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males in 1996:

- For **non-Hispanic white** males, the proportion of bachelors degrees received declines from 54.2 percent in 1977 to 45.1 percent between 1977 and 1996. This was a decline of 9.1 percentage points.
- For **non-Hispanic black** males, the proportion declined from 42.9 to 36.0 percent between 1977 and 1996. This proportion is far lower than for any other group apparently because there are more black males behind bars than there are enrolled in college--a special condition of black males.
- For **Hispanic** males, the proportion declined from 55.0 to 42.8 percent between 1977 and 1996, a decline of 12.2 percentage points.
- For **Asian/Pacific Islander** males, the proportion of bachelor's degrees received declined from 55.4 to 47.5 percent between 1977 and 1996, a decline of 7.9 percentage points. Over the last two decades Asian males have consistently received a larger (albeit declining) share of bachelor's degrees awarded to their race than males of any other racial/ethnic group.
- For **American Indian/Alaskan Natives**, the proportion of bachelor's degrees awarded to males has declined from 54.2 to 41.3 percent between 1977 and 1996. This was a decline of 12.9 percentage points, or the largest decline of any racial/ethnic group.

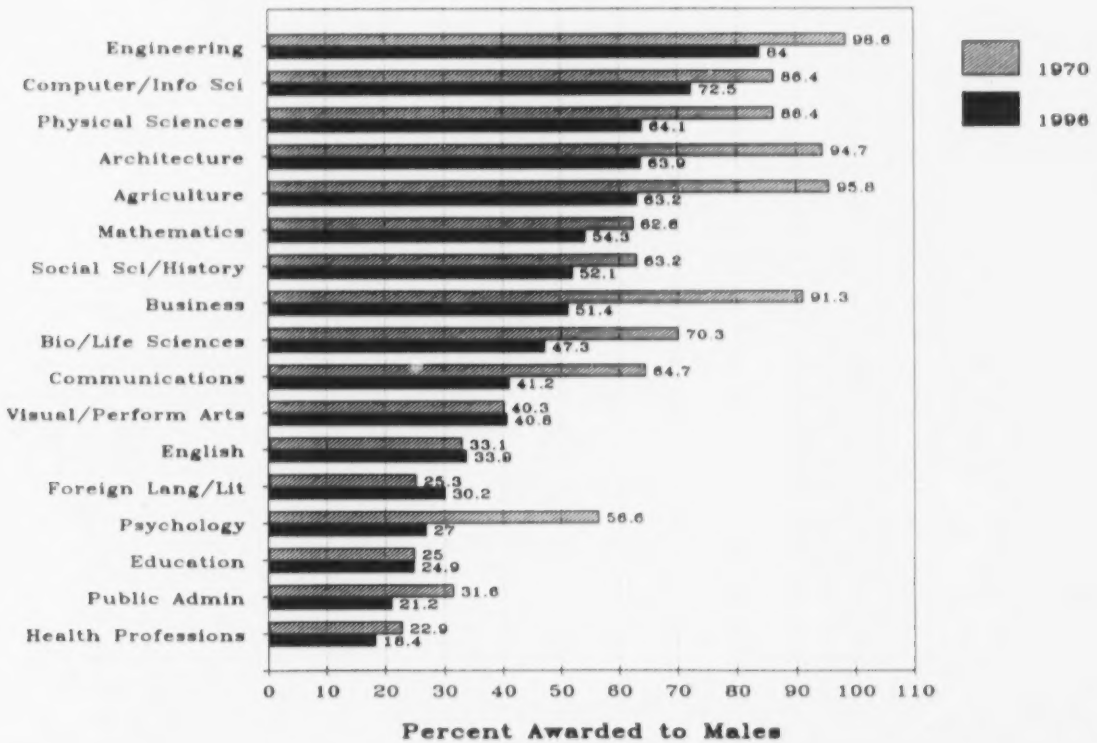
Institutional Control

The decline in the proportion of bachelor's degrees awarded to males occurred in both public and private institutions, at similar rates. In both public and private higher education, more bachelor's degrees were awarded to females than to males for the first time in 1982.

Between 1970 and 1996, the proportion of bachelor's degrees awarded to males by public colleges and universities declined from 55.1 to 45.3 percent. This was a decline of 9.8 percentage points. The numbers of bachelor's degrees awarded to males increased from 293,612 to 350,446, or by 56,834 (+19.4 percent). The number awarded to females increased from 238,830 to 423,624, or by 184,794 (+77.4 percent).

This shift was even more dramatic in private higher education. The proportion of bachelor's degrees awarded to males declined from 58.3 to 44.0 percent between 1970 and 1996. This was a decline of 14.3 percentage points. The numbers of bachelor's degrees awarded to males increased from 159,993 to 172,008, or by 12,015 (+7.5 percent). By comparison, the numbers of bachelor's

Bachelor's Degrees Awarded to Males by Field of Study 1970 and 1996



degrees awarded to females increased from 114,635 in 1970 to 218,714, or by 104,079 (+90.8 percent).

Associate Degrees by Gender

The gender shift in college degrees from males to females is considerably greater among associate degrees than for bachelor's degrees.

Between 1970 and 1996, while the proportion of bachelor's degrees awarded to males declined by 12 percentage points (56.9 to 44.9 percent), the proportion of associate degrees awarded to males declined by 17.5 percentage points (from 57.0 to 39.5 percent).

Between 1970 and 1996, the number of associate degrees awarded to males increased from 117,432 to 219,514, or by 102,085 or 86.9 percent. The number of associate degrees awarded to females increased from 88,591 to 335,702, or by 247,111 or by 279 percent.

The proportions of associate degrees awarded to males in 1996 varied somewhat by race/ethnicity as follows:

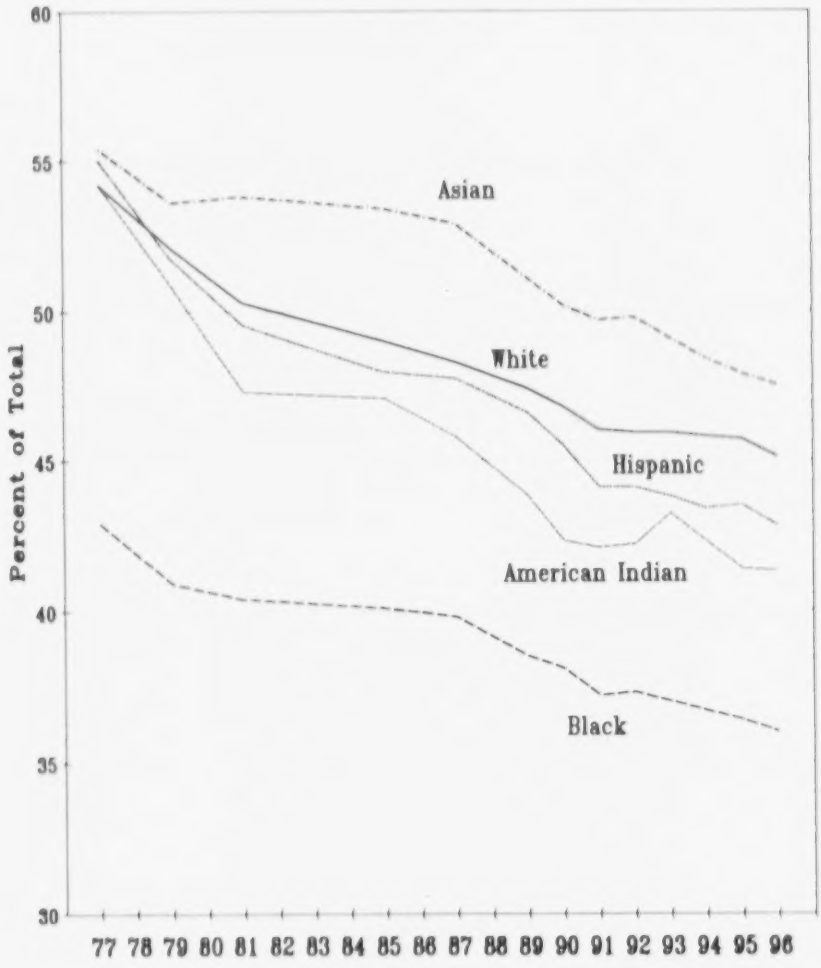
white	39.7%
black	34.4%
Hispanic	41.1%
Asian	44.2%
American Indian	35.7%

These proportions are lower at the associate degree level for each racial/ethnic group than they are at the baccalaureate degree level.

Conclusions

The breadth, speed and size of the shift in bachelor's degrees awards from males to females is truly stunning. It has happened in all 50 states, across all racial and ethnic groups, in nearly all fields of study, and in both public and private colleges and universities. The changes have been very, very large. These changes have been occurring for the last 125 years at least.

Bachelor's Degrees Awarded to Males by Race/Ethnicity
1977 to 1996



And perhaps most amazing these changes have not yet reached the level of a public policy issue, nor have they been studied by academics, nor have they been regularly reported in the media.

The analogy we see for males is to the legendary frog when placed in a pot of cool water on a hot stove. Because the water is cool at first, the frog is comfortable. As the temperature of the water gradually rises from the heat of the stove, the frog remains stupefied. Eventually, the frog is cooked alive. But the frog never flinched because the temperature of the water rose gradually, lulling the dumb frog into believing there was no problem--until it was too late.

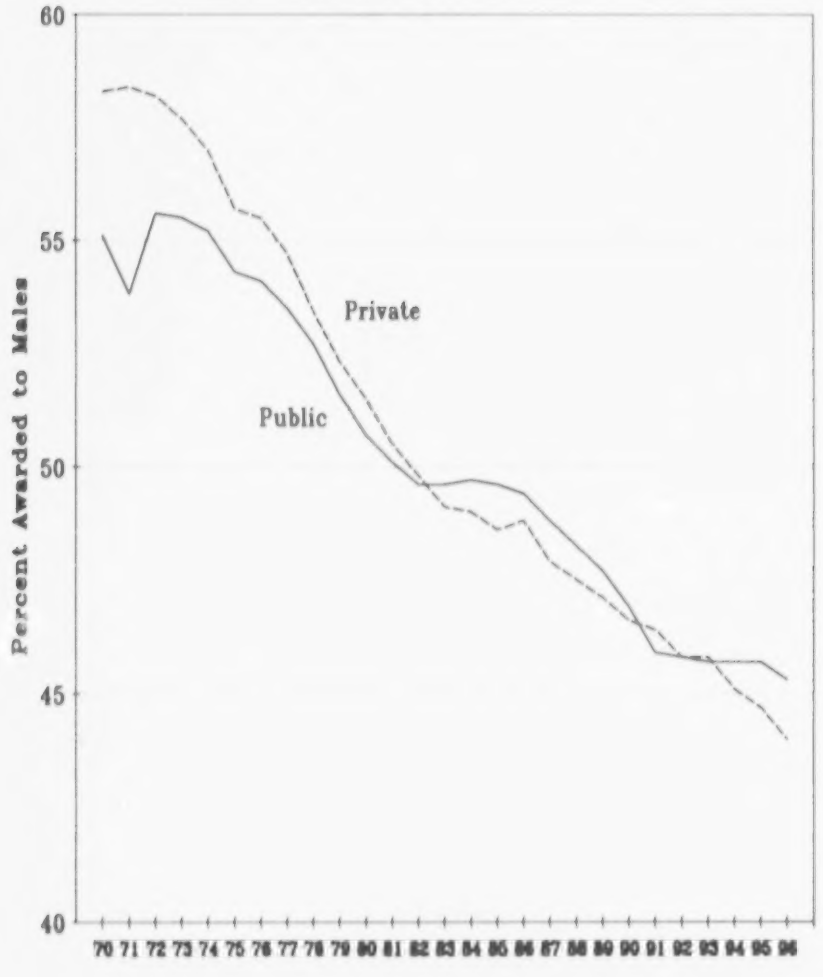
Another way of considering this growing disparity is to begin asking why women are doing so well in higher education while men are not. Presumably, we come from the same families, with the same parents and are served the same kinds of food. We watch TV together and work together. We go to school together,

hang out together and we seem to like each other most of the time. While our genes are somewhat different, we both have heads and arms and fingers and teeth. We both laugh and love and argue.

But along the way our lives diverge. Early on our mothers begin "raising their daughters while they love their sons." Our teachers in school (still largely female) find little boys wiggly and inattentive, who prefer recess to the classroom. We create a whole industry, called special education, that mainly deals with the differing developmental needs and challenges of little boys.

It is just possible that the educational system serves girls better than it does boys. Maybe boys need a different educational system than the one that seems to serve girls so very well. Or maybe the prevalence of parental divorce in the United States combined with child custody assigned to the mother removes the father-figure from little boys lives when a boy needs more than mothering. Maybe men are from Mars and women are from Venus.

Bachelor's Degrees Awarded to Males by Control
1970 to 1996



Affirmative action takes on a more painful immediacy when consideration is given to the plight of young males. It has less of an us-versus-them meaning when it hits within families where boys and girls are raised along side of each other as opposed to its racial applications where whites and blacks are raised in different families.

We know of programs in education that practice affirmative action for males over females. In these programs enrollments are often one-third males and two-thirds females. Because of scarcities of males in these programs, almost any breathing male who walks in the door is enrolled while women are sometimes placed on a waiting list for admission. This raises the ugly specter of preferential admissions treatment for unmotivated, unprepared males at the expense of educational opportunity for motivated, prepared, ready-and-waiting females.

But maybes won't fix this rapidly growing disparity between the educational attainment of young men and women. And as of today, no one seems to be trying. Does anyone really care? Should we? At what point will we decide this has become a serious public policy issue?

We have previously published several analyses about the problems of males in higher education.

- For a pipeline analysis see the September 1995 issue (#39).
- An earlier analysis of long-term trend data on bachelor's degrees for males was in the February 1996 issue (#44).
- An examination of black males in college or behind bars was reported in March 1996 (#45).
- A particularly revealing report on the time use of male and female college freshmen appeared in June 1996 (#48).

Student Financial Aid by State, 1996-97

During the 1997-98 academic year, students received about $60.5 billion in financial aid to help them finance their postsecondary educations according to The College Board. This is more than twice the $28.9 billion awarded to students in the 1990-91 academic year. By any measure, financial aid for students is big time and has grown rapidly.

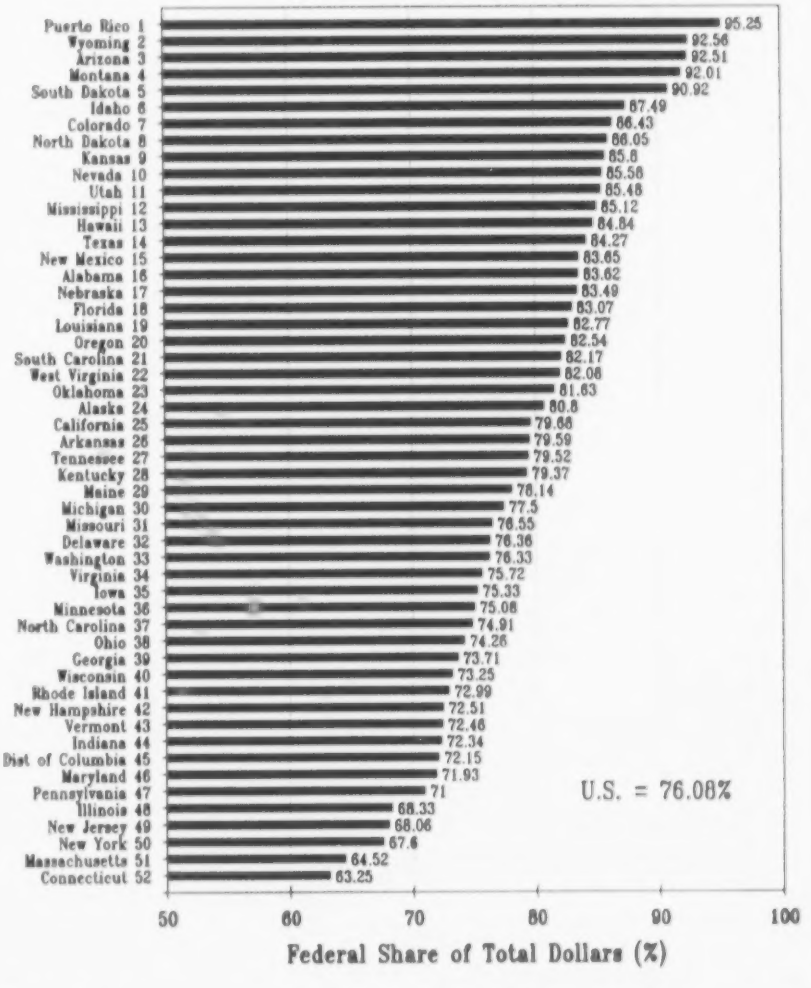
These national numbers reflect the sum of financial aid awarded to individual students, in distinct institutions, in particular states. The grand totals do not tell us about differences in the distribution of financial aid between students, between institutions, nor between states.

Here we address one of these issues: differences in the financial aid awarded to students in the states. We focus on states here because of our particular concern with the failure of most states to address the financial needs of their own needy students (see OPPORTUNITY #73, July 1998). We also focus on states because state investment in higher education has been in widespread retreat in all 50 states over the last two decades (see next month's OPPORTUNITY).

Generally, states have lost interest in higher education investment through institutional appropriations, and only a handful provide meaningful financial support to financial aid programs for their own needy students. Most states have left financial aid responsibility to the federal government, and the federal government has in turn passed the buck back to financially needy students by substituting loans for grants.

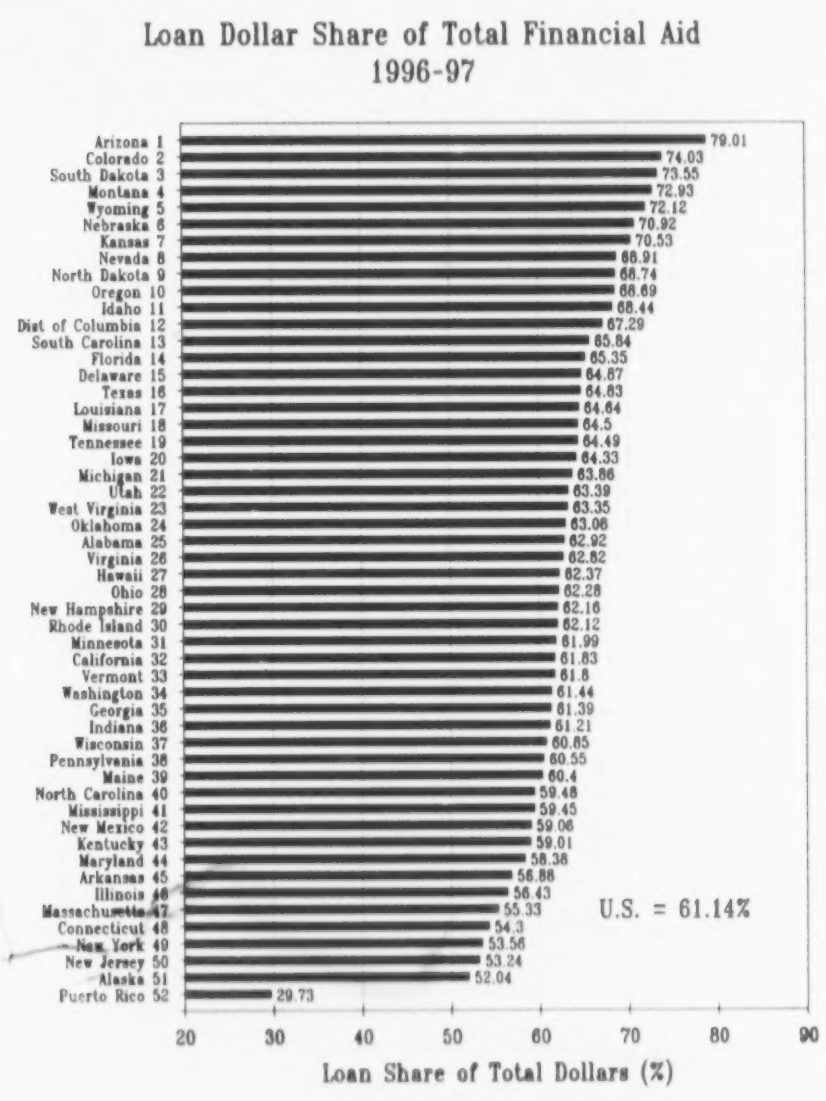
States are all over the map on patterns in the receipt of financial aid by students.

Federal Program Dollar Share of Total Financial Aid
1996-97



- Grants dollars as a proportion of all financial aid received by students ranges from 20 to 63 percent across the states.
- Federal student aid programs provide anywhere from 63 to 95 percent of the financial aid by students across the states.
- Educational loans, as a proportion of all student aid received by students, ranges from 30 to 79 percent across the states.

We find state indifference to the financing of higher education generally and the needs of students from low- and middle-income families to be confusing. *Any* examination of individual, family and state welfare quickly recognizes the extraordinary and growing importance of higher education's contribution. Yet for nearly two decades, governors and legislators have reduced state investment in higher education and



rationed higher educational opportunity for state citizens.

These state priorities and their consequences for educational opportunity are reflected in the following examination of the awarding of federal, state, institutional and private student financial aid by state.

The Data

Nearly all financial aid data is reported or can be recompiled to the state level. Of the $56 billion total reported by The College Board in it's 1998 report on *Trends in Student Aid* for the 1996-97 award year, we have found state-level allocations for $49.2 billion. Part of this difference is attributable to the financial aid received by students outside of the United States, particularly Puerto Rico.

Our tabulations at the state-level do not include $1.7 billion in non-federal loans, $2.2 billion in specially directed federal aid (e.g military benefits), and $1.5 billion in privately awarded grants. The remaining difference between the numbers reported here and those reported by The College Board are mainly in the Direct and Federal Family Educational Loan Program (FFELP) loan programs.

Gladieux, L., Swail, W. S., and Carvajal, E. (1998.) *Trends in Student Aid, 1988.* Washington, DC: The College Board.

Because more than 70 percent of all student financial aid comes through federal programs (including loan capital through lenders), the major data sources are federal:

- Pell Grant program data are published annually in the *Pell Grant End-of-Year Report*.
- Campus-based program data are published annually in the annual report titled *Federal Campus Based Programs, 1996-97.*
- All loan data by state were provided by Maria Rojtman in the Office of Postsecondary Education, U.S. Department of Education.
- Most state grant program data are collected and reported annually by the National Association of State Grant and Aid Programs in a survey report prepared by the New York State Higher Education Services Corporation, Albany, NY.
- Institutionally-awarded aid is taken from the 1994-95 Institutions of Postsecondary Education Data Survey (IPEDS) through a special tabulation prepared by Sam Barbett at the National Center for Education Statistics.

Federal Share of Student Aid

Overall, 76 percent of student financial aid is provided through federal programs. However, this varies widely across the states.

At one extreme, in Connecticut, just

63 percent of all aid comes from federal sources. Other states where less than 70 percent of aid comes from federal sources include **Massachusetts, New York, New Jersey and Illinois.** Generally, these are states with both substantial state grant programs of their own, and large shares of private colleges and universities that normally generate large institutionally-funded student financial aid programs.

At the other extreme, over 95 percent of all financial aid in **Puerto Rico** came through federal student financial aid programs. Other states where more than 90 percent of the student financial aid came through federal programs include those hearty, rugged, independent cowboy states of **Wyoming, Arizona, Montana** and **South Dakota** that, while unwilling to do much to help their own financially needy students are quite willing to let taxpayers from other states care for their own.

Educational Loans

For the country, loans accounted for about 61 percent of the financial aid received by students in the 1996-97 academic year. But this proportion varied widely across the states.

At one extreme less than 30 percent of the financial aid received by college students in **Puerto Rico** was in the form of education loans. Students there mainly use the federal Pell Grant program to finance their higher educations. In four other states less than 55 percent of the financial aid was in the form of loans. These states are **Alaska, New Jersey, New York** and **Connecticut.**

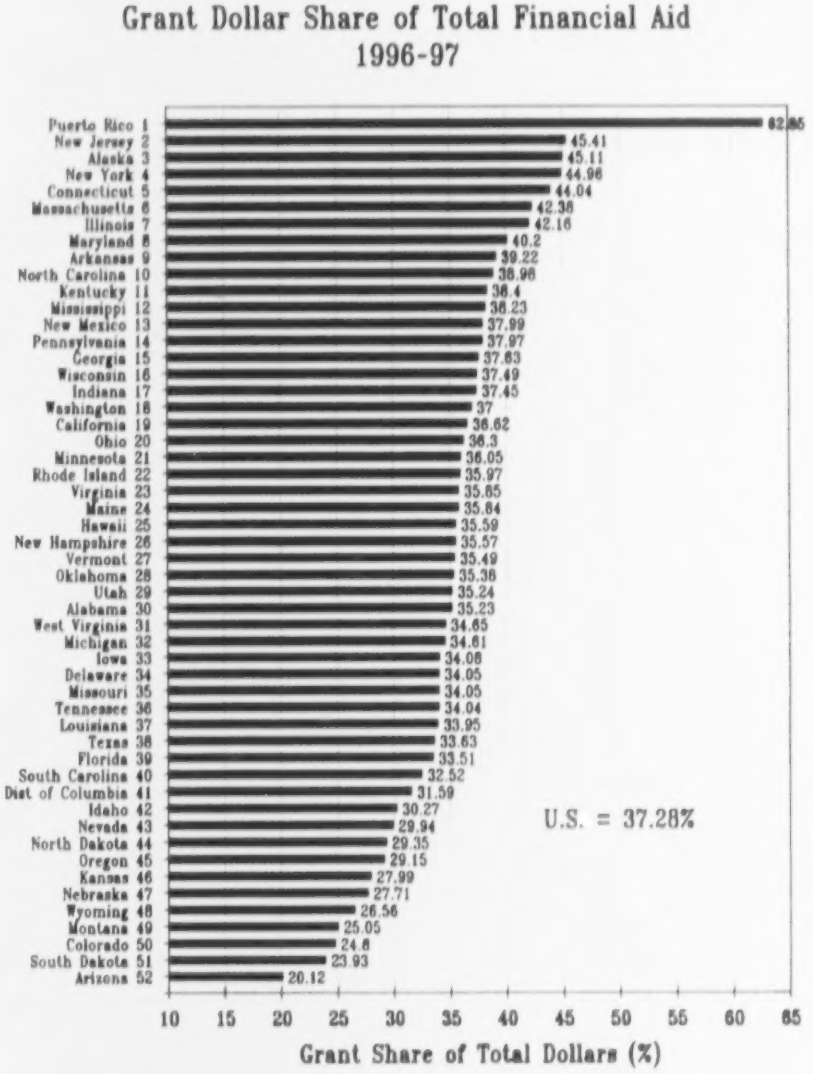
At the other extreme, college students in **Arizona** are more dependent on educational loans to finance their postsecondary educations than are students in any other state. In 1996-97, about 79 percent of the financial aid they received was in the form of loans. Other states where more than 60 percent of the financial aid was in the form of loans were the cowboy states of **Colorado, South Dakota, Montana, Wyoming, Nebraska** and **Kansas.**

Grant Assistance

Unlike loans--which come almost entirely through federal programs--grant assistance to students comes from federal, state, institutional and private sources. In 1996-97 about 37 percent of the aid received by students was in the form of non-repayable grants or scholarships. Of course, this varied widely across the states.

Puerto Rico led the country where nearly 63 percent of the aid received by students was grant aid. In seven states grant assistance was between 40 and 46 percent of student aid: **New Jersey, Alaska, New York, Connecticut, Massachusetts, Illinois** and **Maryland.**

At the other end of the scale, grant



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A. Dollars Awarded (Millions)

State	Pell (a)	SEOG (b)	CWS (c)	Perkins (d)	SSIG (e)	Direct Loans (f) Subsidized	Unsub
Alabama	$ 107.41	$ 9.87	$ 11.56	$ 10.13	$ 0.47	$ 151.63	$ 80.69
Alaska	7.2	0.83	0.89	0.10	0.05	1.1	0.68
Arizona	108.11	10.84	8.20	8.88	0.54	109.98	73.88
Arkansas	57.91	4.75	7.01	6.57	0.20	14.23	5.73
California	715.07	73.04	75.49	95.23	4.90	552.44	248.84
Colorado	72.54	9.72	8.61	18.48	0.44	120.63	89.8
Conneticut	35.02	9.50	10.25	13.35	0.42	19.92	12.19
Delaware	8.79	1.80	1.11	2.31	0.09	19.27	13.19
District of Columbia	16.81	5.54	6.76	9.17	0.23	41.11	32.04
Florida	284.62	27.39	21.47	22.09	1.00	131.8	88.06
Georgia	134.39	13.55	12.78	13.20	0.00	214.13	134.54
Hawaii	13.21	2.33	1.56	2.20	0.13	0.21	0.2
Idaho	31.68	2.28	2.48	5.56	0.11	64.1	35.89
Illinois	201.92	31.97	31.73	46.15	1.72	326.14	176.72
Indiana	99.82	15.41	15.79	29.16	0.64	119.42	63.45
Iowa	65.36	11.43	13.01	21.83	0.34	179.59	88.55
Kansas	57.75	6.45	6.91	14.37	0.35	57.87	24.66
Kenturkey	94.39	9.02	15.13	11.42	0.39	84.34	46.77
Louisiana	130.14	8.99	11.69	12.22	0.45	23.49	14.64
Maine	22.24	8.80	8.38	9.52	0.11	9.39	3.69
Maryland	77.23	11.34	10.48	14.49	0.58	94.91	54.52
Massachusetts	110.97	38.30	50.05	54.77	1.03	288.52	155.29
Michigan	156.64	26.52	23.34	37.49	1.32	353.9	211.03
Minnesota	89.97	19.34	19.30	26.35	0.62	101.18	60.09
Mississippi	86.15	8.05	9.38	11.14	0.27	14.24	2.69
Missouri	105.45	13.19	16.42	23.17	0.63	137.92	83.68
Montana	26.14	2.22	3.37	5.07	0.09	20.83	10.01
Nebraska	36.53	4.82	5.08	16.67	0.23	34.68	18.61
Nevada	13.55	1.29	1.11	1.14	0.09	17.67	12.93
New Hamp.	17.38	6.68	6.91	9.69	0.11	4.01	2.89
New Jersey	116.37	15.10	13.28	19.94	0.84	176	102.37
New Mexico	47.96	4.52	7.16	6.28	0.16	37.5	25.02
New York	562.65	75.69	75.21	95.29	2.70	493.42	241.24
North Carolina	119.59	16.63	15.17	22.51	0.69	96.25	50.13
North Dakota	20.53	3.47	2.98	5.80	0.09	1.59	1.84
Ohio	199.52	32.35	31.43	45.75	1.27	316.21	166.59
Oklahoma	92.29	8.14	9.14	12.87	0.43	31.4	16.35
Oregon	53.72	11.82	12.16	22.42	0.41	130.04	80.22
Pennsylvania	224.81	47.50	45.17	59.06	1.40	56.88	34.23
Puerto Rico	303.03	11.89	13.38	5.01	0.28	93.94	9.61
Rhode Island	24.36	7.74	6.87	11.45	0.17	51.88	18.72
South Carolina	72.33	8.55	9.07	13.82	0.35	45.05	21.77
South Dakota	21.11	3.65	4.22	6.53	0.09	2.3	1.45
Tennessee	102.97	12.49	12.04	15.78	0.52	76.7	37.24
Texas	399.41	36.97	37.70	28.46	1.74	80.32	47.69
Utah	55.34	4.82	3.99	9.81	0.24	2.98	2.77
Vermont	12.27	6.74	6.51	6.10	0.08	28.53	11.83
Virginia	118.44	14.64	15.48	17.84	0.68	245.38	145.59
Washington	105.86	15.88	14.32	22.58	0.72	122.96	76.09
West Virginia	45.64	5.90	6.19	8.53	0.23	85.3	40.7
Wisconsin	75.26	20.85	16.81	31.36	0.67	91.5	53.14
Wyoming	11.3	1.08	0.86	2.53	0.05	0.02	0.03
All Others	8.94	0.40	0.71	0.02			
TOTALS	**$ 5,780.03**	**$ 762.08**	**$ 776.10**	**$ 1,021.66**	**$ 32.24**	**$ 5,574.80**	**$ 3,030.57**

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Direct Loans (f) PLUS	Subsidized	FFELP (g) Unsub	PLUS	State/Loc Govt (h)	Private (I)	Institut.(j)	Total
$ 15.98	$ 79.44	$ 47.76	$ 7.45	$ 8.41	$ 12.69	$ 81.24	$ 624.73
9.68	4.19	0.48	1.72	0.66	3.61	31.19	
3.75	283.2	221.62	45.99	4.38	18.00	48.48	945.85
0.29	93.69	47.57	6.9	13.72	9.00	40.07	307.64
72.56	1141.51	755.74	142.94	261.59	100.84	626.51	4,866.70
36.13	162.51	97.63	20.14	41.60	7.87	50.49	736.59
4.47	156.51	88.05	40.15	20.58	18.85	187.06	616.32
9.53	13.21	6.88	2.16	1.46	1.50	21.29	102.59
6.26	158.18	132.04	27.52	1.07	9.17	157.93	603.83
12.57	559.26	348.89	70.35	109.98	28.63	180.76	1,886.87
31.9	217.23	161.8	28.12	185.88	33.92	123.22	1,304.66
27.21	15.23	2.79	0.38	3.64	7.61	76.70	
1.66	15.63	6.41	2.05	0.99	2.99	20.03	191.86
37.11	392.27	248.66	40.6	299.03	31.67	380.67	2,246.36
34.3	269.9	146.75	61.06	79.15	42.17	205.79	1,182.81
33.77	116.54	74.52	12.32	42.42	17.26	142.47	819.41
6.32	143.15	74.57	9.2	10.24	14.43	41.81	468.08
7.82	120.54	66.86	6.98	28.91	12.05	79.53	584.15
4.82	298.63	165.71	20.1	16.71	11.48	115.66	834.73
2.56	68.17	28.63	12.65	7.04	3.53	38.16	222.87
15.61	135.19	78.95	35.42	43.28	15.29	147.75	735.04
50.12	359.11	211.42	86.67	57.54	41.40	674.35	2,179.54
49.46	189.62	117.06	14.67	92.57	45.32	205.09	1,524.03
16.41	254.46	123.75	29.95	93.36	23.68	129.09	987.55
0.37	135.95	69.83	6.27	0.61	9.10	50.49	404.54
15.28	278.67	161.15	25.92	26.65	21.88	215.33	1,125.34
3.51	52.15	25.77	4.28	0.45	4.13	8.74	166.76
3.48	104.7	75	10.28	3.39	9.61	48.34	371.42
3.01	17.63	12.86	1.05	4.90	1.11	7.86	96.20
1.83	94.06	44.48	29.63	0.70	5.48	76.35	300.20
22.33	107.54	74.78	20.23	161.13	10.20	142.58	982.69
53.08	20.09	1.71	21.40	8.70	9.68	243.26	
70.76	993.58	636.68	202.08	642.76	66.31	944.13	5,102.50
14.75	220.99	135.79	45.73	50.68	36.66	159.93	985.50
0.51	68.82	24.19	4.79	2.58	4.12	15.13	156.44
58.84	458.38	261.17	68.35	129.86	32.18	406.29	2,208.19
6.67	190.82	98.9	17.09	24.35	18.48	66.14	593.07
17.33	74.7	51.61	11.1	16.29	12.61	69.57	564.00
13.03	961.72	528.66	193.57	243.06	62.06	579.39	3,050.54
1.22	28.01	11.26	0.07	23.82			501.52
13.21	58.67	39.45	30.32	5.70	2.81	88.77	360.12
7.9	167.73	86.07	21.67	21.54	13.83	63.21	552.89
0.69	74.87	30.79	6.51	0.35	3.59	11.27	167.42
1.16	245.33	135.35	37.9	19.49	16.10	138.93	852.00
7.47	847.87	494.71	80.52	49.27	89.14	246.75	2,448.02
0.56	126.95	37.71	3.94	6.16	9.13	27.01	291.41
20.55	40.37	25.83	15.16	11.47	3.20	51.44	240.08
45	142.07	88.33	42.26	93.43	32.50	154.87	1,156.51
10.29	178.86	113.82	39.79	59.65	36.40	121.39	918.61
13.16	27.79	17.2	3.36	10.99	5.57	38.88	309.44
12.58	219.8	118.47	19.81	57.35	21.87	161.90	901.37
25.63	12.18	6.51	0.51	1.92	2.41	65.03	
				0.00	0.00	0.00	10.07
$ 818.89	$ 11,261.58	$ 6,702.82	$1,676.56	$ 3,110.55	$ 1,044.71	$ 7,615.46	$49,208.05

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B. Students Served

State	Pell (a)	SEOG (b)	CWS (c)	Perkins (d)	SSIG (e)	Subsidized
Alabama	69,312	14,699	10,388	6,527	4,380	42,161
Alaska	4,338	1,190	342	73	112	437
Arizona	71,474	16,934	5,497	4,373	3,110	30,098
Arkansas	35,877	8,778	6,966	4,015	7,398	4,869
California	427,875	117,280	51,299	59,655	9,685	143,661
Colorado	48,171	10,678	6,321	11,447	1,702	28,252
Conneticut	24,245	10,425	9,354	7,611	2,341	6,932
Delaware	6,207	3,162	1,349	1,748	352	5,567
District of Columbia	10,558	4,374	4,805	4,864	1,129	7,631
Florida	182,094	48,109	18,750	15,737	34,263	42,017
Georgia	96,419	19,758	11,934	8,241		62,195
Hawaii	8,494	2,672	989	1,023	700	117
Idaho	19,933	5,295	2,399	4,879	1,688	18,559
Illinois	134,668	34,942	26,837	26,932	127,601	88,832
Indiana	68,183	25,236	15,328	19,587	23,120	33,841
Iowa	44,442	13,731	14,502	16,159	25,826	55,916
Kansas	38,976	12,081	6,933	9,608	8,994	17,353
Kenturkey	58,925	14,967	11,097	8,112	1,836	28,241
Louisiana	76,163	13,781	10,744	6,717	2,609	6,458
Maine	14,482	10,058	7,387	7,252	11,787	3,368
Maryland	52,436	18,725	8,501	8,343	6,653	24,781
Massachusetts	72,422	37,024	39,146	34,706	29,873	71,326
Michigan	112,281	41,758	20,008	26,059	4,933	104,997
Minnesota	62,221	24,047	17,430	15,908	61,397	28,064
Mississippi	50,918	11,522	9,214	6,414	1,660	5,509
Missouri	69,993	19,423	14,392	15,479	10,426	37,007
Montana	16,134	3,918	3,183	4,133	696	6,238
Nebraska	25,633	9,746	5,271	8,263	3,313	10,601
Nevada	9,190	1,388	636	462	473	5,294
New Hamp.	12,093	7,228	7,779	6,054	1,328	1,184
New Jersey	73,241	25,252	12,828	13,342	13,977	49,846
New Mexico	30,216	6,372	4,413	4,745	12,636	9,701
New York	332,203	92,234	68,725	65,797	3,674	132,366
North Carolina	78,641	23,557	16,940	12,319	3,832	28,880
North Dakota	13,203	5,065	3,400	4,509	3,892	608
Ohio	133,932	43,489	28,090	35,679	65,231	87,750
Oklahoma	57,954	13,392	7,953	7,324	19,948	8,554
Oregon	35,175	17,927	11,105	15,507	17,305	33,813
Pennsylvania	144,431	52,933	46,264	47,134	2,007	18,921
Puerto Rico	157,351	34,555	20,778	8,896	56,085	28,354
Rhode Island	16,531	9,628	6,314	7,530	12,008	12,073
South Carolina	48,983	13,414	9,446	8,201	5,310	14,525
South Dakota	13,739	6,772	4,471	5,003	1,135	918
Tennessee	66,163	18,315	11,476	8,819	20,069	21,974
Texas	256,967	57,628	29,784	16,104	5,613	24,501
Utah	38,438	10,412	2,487	5,362	2,039	1,064
Vermont	8,518	5,554	6,185	5,738	4,178	8,287
Virginia	77,445	24,674	14,200	10,492	7,985	63,915
Washington	66,775	23,892	10,902	13,893	10,048	123
West Virginia	27,306	7,165	6,474	5,940	479	24,549
Wisconsin	51,824	28,334	17,998	19,588	4,843	28,637
Wyoming	7,293	1,665	917	1,853	372	13
All Others	5,168	1,272	1,184	13		
TOTALS	**3,665,654**	**1,086,430**	**691,115**	**674,169**	**662,051**	**1,520,878**

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Direct Loans (f)			FFELP (g)	
Unsub	PLUS	Subsidized	Unsub	PLUS
24,144	3,250	22,344	13,670	1,432
210		2,653	1,298	76
21,247	811	74,741	54,212	8,718
2,064	94	28,222	14,516	1,428
65,317	11,677	271,768	155,178	21,629
19,974	4,810	50,627	29,549	3,583
4,033	651	38,424	20,176	4,929
4,054	1,205	3,911	2,099	350
4,880	657	28,084	19,663	2,856
26,978	2,413	152,699	86,393	10,035
39,415	5,527	54,611	35,081	4,050
86		7,777	4,264	501
11,190	381	5,798	2,360	363
46,684	6,913	95,470	49,993	6,478
19,013	5,071	88,470	48,409	10,786
29,982	7,000	31,427	15,889	2,466
8,415	1,197	40,977	21,816	2,116
16,337	1,322	34,931	19,520	1,486
3,227	775	83,627	44,160	3,930
1,449	256	20,018	8,817	1,926
13,777	2,332	35,598	20,949	4,842
34,475	6,483	79,161	38,521	9,707
64,287	9,154	58,754	34,574	2,936
16,539	2,906	82,212	37,561	5,437
1,201	130	41,792	22,452	1,448
22,835	2,974	71,986	37,452	4,923
3,678	693	16,128	8,432	816
6,703	881	30,232	17,610	2,140
3,844	502	5,464	3,761	188
730	201	27,409	12,424	3,994
28,238	4,112	33,855	19,607	3,595
6,321		17,090	6,947	300
62,621	11,182	245,603	132,869	26,062
15,438	2,893	61,627	36,380	7,023
527	111	22,680	8,356	1,293
47,368	9,510	130,927	70,606	11,826
5,131	1,267	59,886	31,345	3,457
20,132	2,632	20,609	12,742	1,825
11,282	2,447	272,031	145,180	30,187
2,133	206	7,470	1,620	17
4,263	1,381	19,078	12,257	3,928
6,956	1,379	46,765	23,784	4,158
600	143	23,666	10,319	1,600
11,488	279	69,264	37,521	6,044
13,366	1,482	234,163	132,122	15,554
919	146	34,621	11,430	744
3,786	2,813	10,997	5,893	2,317
36,755	7,225	43,484	26,734	7,002
20,341	1,981	50,238	30,569	5,949
12,803	2,305	9,734	5,367	723
15,948	2,000	70,307	35,093	4,049
12		9,010	4,823	1,192
843,196	135,760	3,078,420	1,682,363	284,414

assistance was least in **Arizona** where about 20 percent of student aid was grant assistance. Other states where grant aid was less than 30 percent of the total included **South Dakota, Colorado, Montana, Wyoming, Nebraska, Kansas, Oregon, North Dakota** and **Nevada** - the cowboy states

Students Served

The table on pages 14 and 15 provides a count of the numbers of students receiving financial aid in each of the federal programs. Because students can and do receive financial aid from more than one program at a time, these numbers cannot be added to get the numbers of students served. Rather, they provide a useful indication of the numbers of students served by each program on its own.

For example, the Pell Grant program served the largest number of students--nearly 3.7 million in 1996-97. Across the states, the largest numbers of Pell Grant recipients were in **California** with 428,000, **New York** with 332,000 and **Texas** with 257,000. But even **Alaska** received 4,338 Pell Grants in 1996-97.

Other programs assisting more than one million students to finance their higher educations were **subsidized Federal Family Educational Loan Program** (3.1 million students), **unsubsidized FFELP** (1.7 million), **subsidized Direct loans** (1.5 million students), and **Supplemental Educational Opportunity Grants** (1.1 million).

Average Award

Average awards varied in size across the states. Reasons include differences between states in full-time/part-time enrollments, public/private enrollments (hence: costs of attendance), and differences in family resources available to finance college between

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rich and poor states, and across levels of education.

Simply dividing dollars awarded by the number of recipients produces wide ranges across the states.

- In the Pell Grant program, for example, the range in the average Pell Grant was from $1926 in **Puerto Rico** to $1321 in **Texas**.
- The average SEOG grant ranged from $1266 in the **District of Columbia** to $344 in **Puerto Rico**.
- In the subsidized FFELP program, the average amount borrowed ranged from $2525 in **Wyoming** to $6949 in **Puerto Rico**.
- In the subsidized Direct Loan program, the range was from $1786 in **Hawaii** to $4297 in **Rhode Island**.

Space prevented publication of our table on average financial aid awards by program. But copies are available to subscribers to OPPORTUNITY on request.

Conclusion

The College Board has provided a valuable reporting service through its publication of *Trends in Student Aid*. This annual report has become the standard reference for a broad scale report on the amount, source and types of financial aid received by students in postsecondary education.

Our report disaggregates the national data to the state level. Taking data from the same sources used by The College Board, the state-level data illustrate wide variations in the types of financial aid available to and used by students in different states. Students in some states are far more dependent of federal programs and loan programs than are students in other states. This is a result of notably weak commitments in these states to provide financial aid to their own financially needy students, and a great willingness to rely on federal programs and educational debt.

In other states dependency on federal student financial aid programs and dollars is far less. These are states characterized both by substantial private college sectors and strong state funding for their own financial aid programs.

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 77 | Oskaloosa, Iowa | November 1998

State Tax Fund Appropriations for Higher Education, FY1999

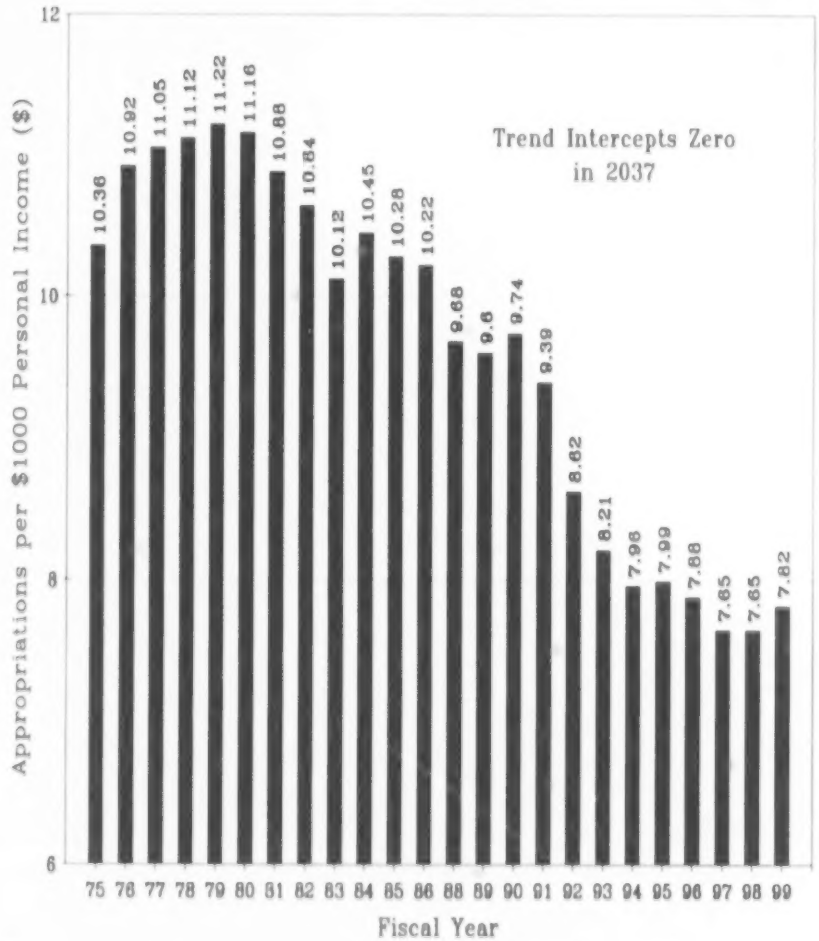
States appropriated $52.8 billion from state tax funds for higher education for FY1999--the current academic year. This is up from $49.5 billion in FY1998 and $46.6 billion in FY1997. At first glance, this appears to be a pattern of significant increases from FY1997 to FY1998 and from FY1998 to FY1999.

A second glance, however, indicates that these increases are very modest, representing little or no real increase in state investment in higher education. The tax base for state tax funds--state personal income--was also increasing. And in several states, declines occurred.

Examined over a longer period of time, these increases are nothing more than a modest pause in a trend of significant declines in state investment in higher education that began about FY1980. State personal income has grown faster than state tax fund appropriations for higher education. Thus, states have been allocating a declining share of their resources to higher education investment.

The paradox in these data is that states are ever-more dependent on higher education to generate the economic growth and development that is the highest goal of governors and legislators. Yet, since FY1979, governors and legislators have been reducing state investment in higher education. State leaders have been shifting state tax resources to other state budget priorities, mainly corrections, Medicaid and more recently reductions in state taxes. Higher education's historic priority in state budgets has been gradually replaced since 1979 by other states needs, at least as seen by state political leadership and--presumably--the voters who elected them.

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1975 to FY1999



States have the primary creative and supportive roles in providing opportunity for higher education for their citizens. This role precedes federal involvement in the financing of higher education opportunity. State-created colleges and universities now enroll about 78 percent of the students in higher education, and states provide a far larger share of the resources for financing higher education opportunity than does the federal government.

The state responsibility for providing opportunity for higher education has three primary dimensions: capacity, quality and affordability. When higher education becomes inadequately funded, one or more of these opportunity dimensions is sacrificed. Under-funded public colleges and universities may:

- *Curtail enrollment* by imposing enrollment caps and/or raising admissions standards. Public higher education in **Washington** and **Wisconsin** are examples of this response, although more selective admissions policies are characteristic of public higher education nearly everywhere over the last decade.
- *Sacrifice quality* by increasing class size, paying faculty less than market rates, and reducing academic support. The growing gap since 1980 in compensation between public and private college faculty reported in the May 1997 issue of OPPORTUNITY is one of many examples.
- *Deteriorating college affordability* since 1980 has been the focus of many analyses in past issues of OPPORTUNITY, of the recent federal commission that produced *Straight Talk About College Costs and Prices*, and numerous other policy and academic studies. As public institutions receive less state support they raise tuition charges to students to replace lost funds. This cost shift has greatest impact on those least able to afford college.

In fact the capacity, quality and/or affordability of public higher education has been impacted by this reduction in state support nearly everywhere. As a direct result, we are higher educating fewer students than seek the opportunity and that this labor market requires. Moreover, higher education attainment has grown more unequal across family income levels, and is more unequally distributed in the mid 1990s than it has been at any time in the last twenty-five years. We are all poorer as a consequence.

The Grapevine Data

The core data on state tax fund appropriations for higher education examined here are collected by Dr. Edward Hines and his staff at Illinois State University. The data are known as the Grapevine data for the name of the newsletter in which they have been published for many years that was started by Prof. M. M. Chambers, Hines' predecessor at Illinois State. The time series of these data begin with 1960.

These data are available in more detail, especially by state and in often great state detail from the Grapevine website at:

http://coe.ilstu.edu/grapevine

The state data are posted as they are collected from the states with the complete report now available online. In addition historical data going back to 1960 may be purchased from:

Grapevine Office
Illinois State University
Campus Box 5900
Normal, IL 61790-5900
Phone: (309) 438-5405

The Grapevine data are then published first in *The Chronicle of Higher Education*, and later in a report from the State Higher Education Executive Officers (SHEEO).

The amounts reported for each state are tax funds appropriated for

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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universities, colleges, community colleges and state higher education agencies. Since FY1995 Grapevine has also reported tax support from local government usually used to support community colleges. While these data are not used here, they are reported by SHEEO later.

The Grapevine data include the following:

- Appropriations, not expenditures
- Sums appropriated for annual operating expenses
- Details of appropriations for complex universities separately for main campuses, branch campuses and medical centers.
- Included are state sums appropriated for local public community colleges, state community colleges and vocational-technical institutes and colleges that enroll mainly high school graduates and adult students. Also, sums for coordinating or governing boards for expenses or for allocation to other institutions. Also sums appropriated for financial aid. Also sums destined for higher education but appropriated to other state agencies. Also sums appropriated to private colleges and universities.

The Grapevine data exclude:

- Appropriations for capital outlays and debt service.
- Appropriation of funds from federal sources, student fees, auxiliary enterprises and other non-tax sources.

Because we view these appropriations as a state investment and we want to compare state investments over time, we control for the resources available to a state to fund higher education. Obviously, states differ widely in the resources available to support higher education.

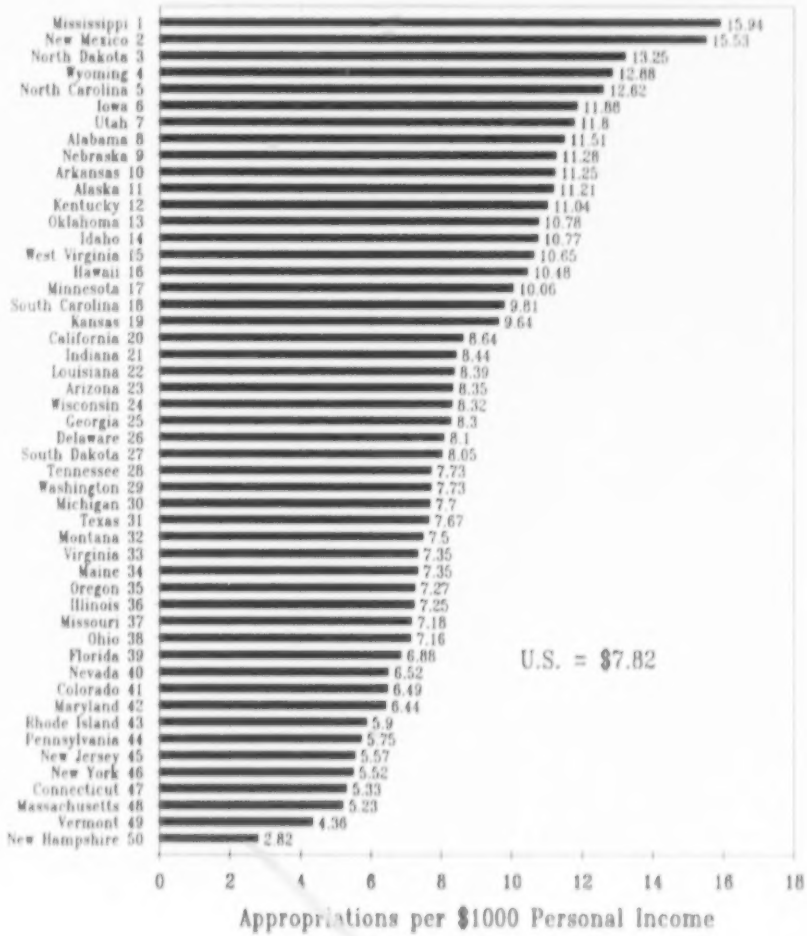
- Some states are relatively poor. The states with per capita personal incomes below $20,000 in 1997 were: **Mississippi** ($18,087), **West Virginia** ($18,734), **New Mexico** ($19,249) and **Montana** ($19,704).
- At the other end of the scale, states with high per capita personal income have more to spend on higher education. The states with the highest per capita personal income in 1997 were: **Connecticut** ($35,954), **District of Columbia** ($35,290), **New Jersey** ($32,233), **Massachusetts** ($31,207) and **New York** ($30,299).

We take each state's tax base resource to finance higher education to be state personal income. We calculate and report here state tax fund appropriations for higher education per $1000 of personal income.

Revised estimates of state personal income were recently published by the Bureau of Economic Analysis:

Bailey, W. K. "State Personal Income, Revised Estimates for 1982-97." *Survey of Current Business*. October 1998. Washington, DC: U.S. Government Printing Office.

Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1999



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Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income by Fiscal Year

State	1975	1977	1979	1980	1982	1984	1986	1988	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Change: FY1979 to FY1999 Dollars	Change: FY1979 to FY1999 Percent	Approps Reach Zero in
Alabama	$11.54	$16.03	$18.04	$16.02	$14.31	$11.67	$15.69	$12.42	$14.73	$15.45	$13.02	$12.98	$13.08	$14.19	$12.54	$11.80	$11.33	$11.51	$-6.53	-36.2%	2062
Alaska	18.42	19.60	16.64	16.42	23.84	20.85	26.98	16.55	17.59	15.94	15.05	14.49	13.67	12.44	11.93	11.69	11.39	11.21	$-5.43	-32.6%	2021
Arizona	15.80	15.52	14.60	13.41	12.81	11.09	11.96	11.00	10.91	10.92	10.31	9.74	9.29	9.33	8.94	8.47	8.33	8.35	$-6.25	-42.8%	2028
Arkansas	10.24	11.76	11.81	13.00	11.05	9.87	12.99	10.63	10.29	10.28	11.49	11.87	10.93	10.80	10.95	10.51	10.86	11.25	$-0.56	-4.7%	2194
California	12.01	13.10	13.47	14.14	12.82	8.83	11.34	10.41	10.81	10.53	9.14	7.64	6.57	6.95	7.22	7.65	7.90	8.64	$-4.83	-35.9%	2020
Colorado	13.64	13.60	12.66	11.41	10.53	9.90	9.23	8.86	9.29	8.88	8.40	8.10	7.46	7.10	7.11	6.90	6.63	6.49	$-6.17	-48.7%	2024
Connecticut	7.40	6.76	8.26	7.68	7.12	6.15	6.32	6.55	6.22	6.08	6.01	5.68	5.56	5.46	5.28	5.18	5.21	5.33	$-2.93	-35.5%	2038
Delaware	11.18	11.50	10.91	10.71	11.69	10.64	10.90	10.67	9.91	9.84	9.03	8.65	8.23	9.03	8.80	7.88	7.72	8.10	$-2.81	-25.8%	2040
Florida	10.91	9.24	9.48	9.37	9.05	8.06	8.07	7.99	7.66	7.30	6.15	5.61	5.99	5.99	6.06	6.17	6.45	6.88	$-2.60	-27.4%	2030
Georgia	11.29	10.60	11.42	11.30	11.28	10.18	9.86	9.25	9.14	9.30	7.88	8.24	8.29	8.43	8.59	8.32	8.19	8.30	$-3.12	-27.3%	2042
Hawaii	12.74	17.25	16.80	15.95	15.83	15.17	15.40	16.10	15.90	14.49	14.17	14.21	14.70	14.09	11.97	12.03	11.59	10.48	$-6.32	-37.6%	2048
Idaho	14.78	16.57	16.34	13.58	12.47	10.94	12.06	12.37	12.46	13.24	12.70	12.09	11.42	11.77	11.38	11.26	10.52	10.77	$-5.57	-34.1%	2079
Illinois	9.45	9.00	9.34	8.76	8.28	7.73	8.27	7.40	8.21	7.85	7.42	7.18	7.07	7.19	7.10	7.15	7.08	7.25	$-2.09	-22.4%	2074
Indiana	9.32	10.73	10.42	9.93	9.81	8.89	9.43	9.75	9.82	9.93	9.59	9.28	8.81	8.44	8.37	8.29	8.27	8.44	$-1.98	-19.0%	2105
Iowa	9.65	12.77	13.77	13.10	12.51	11.88	11.25	11.60	12.09	13.12	11.77	12.45	11.94	12.44	11.80	11.96	11.68	11.88	$-1.89	-13.7%	2209
Kansas	10.47	12.73	13.39	12.91	11.78	10.88	10.89	10.10	11.31	11.07	9.91	10.19	9.78	9.99	9.90	9.48	9.44	9.64	$-3.75	-28.0%	2055
Kentucky	12.58	12.12	13.27	12.96	12.72	11.97	11.29	11.92	11.51	11.86	11.59	10.72	9.97	10.24	9.97	9.71	9.33	11.04	$-2.23	-16.8%	2066
Louisiana	12.54	11.55	12.03	12.39	12.76	10.26	11.87	10.21	9.65	10.35	9.38	9.70	8.34	8.27	7.81	7.84	8.49	8.39	$-3.64	-30.3%	2028
Maine	10.89	8.33	7.87	8.34	7.48	6.29	8.07	9.37	9.71	9.86	8.83	8.03	7.71	7.44	7.44	7.32	7.12	7.35	$-0.52	-6.6%	2979
Maryland	8.13	9.68	9.34	9.34	8.73	8.14	8.47	8.17	9.14	8.97	7.69	7.31	6.58	6.64	6.56	6.40	6.25	6.44	$-2.90	-31.0%	2039
Massachusetts	6.54	6.75	6.51	6.88	6.26	5.38	8.30	8.66	6.66	5.32	4.30	4.63	5.79	6.14	5.90	4.96	5.00	5.23	$-1.28	-19.7%	2054
Michigan	10.44	10.51	10.55	10.37	9.19	8.54	10.02	9.72	9.21	9.19	9.02	8.81	8.33	8.26	7.94	7.69	7.64	7.70	$-2.85	-27.0%	2069
Minnesota	9.71	14.20	13.88	14.53	12.96	13.07	13.11	12.82	13.19	13.38	12.11	11.39	11.02	10.86	10.50	9.88	9.88	10.06	$-3.82	-27.5%	2053
Mississippi	16.12	16.21	18.22	17.59	18.08	16.80	17.49	14.20	14.87	14.43	12.49	12.66	12.43	16.17	15.64	14.87	15.25	15.94	$-2.28	-12.5%	2081
Missouri	8.59	9.02	8.92	8.81	7.97	6.98	7.46	7.20	7.60	7.58	6.36	6.39	6.17	6.57	6.65	6.67	6.80	7.18	$-1.74	-19.5%	2061
Montana	11.33	11.62	11.81	11.42	12.43	12.73	12.45	10.87	10.57	10.28	10.81	9.93	8.73	7.74	8.04	7.88	7.50	7.50	$-4.31	-36.5%	2028
Nebraska	10.51	13.00	13.40	12.72	12.70	11.35	10.77	10.35	12.27	13.23	12.26	12.71	11.77	11.64	11.41	11.43	10.98	11.28	$-2.12	-15.8%	2234
Nevada	9.44	10.76	9.91	9.13	7.66	7.02	7.78	7.58	7.94	7.63	8.23	8.17	6.87	6.15	6.46	6.28	7.00	6.52	$-3.39	-34.2%	2061
New Hampshire	4.95	5.26	4.97	4.65	4.67	2.93	3.90	4.09	3.53	3.25	3.25	3.08	3.20	3.42	3.09	2.82	2.87	2.82	$-2.15	-43.3%	2030
New Jersey	6.73	6.41	6.33	6.23	5.76	5.31	7.31	7.14	6.73	5.74	5.87	5.91	5.93	5.98	6.24	5.89	5.40	5.57	$-0.76	-12.0%	2392
New Mexico	14.40	14.98	16.42	15.78	16.79	14.83	16.06	14.37	15.75	16.71	16.12	16.10	15.98	16.57	16.57	15.88	15.05	15.53	$-0.89	-5.4%	7119
New York	11.13	10.52	10.52	10.57	10.27	9.66	10.02	9.66	9.21	8.31	6.94	6.63	6.82	6.89	6.06	5.59	5.37	5.52	$-5.00	-47.5%	2018
No Carolina	14.93	15.11	15.91	15.82	16.00	15.23	16.13	16.30	15.71	14.86	13.34	13.58	13.25	13.28	12.71	12.20	12.34	12.62	$-3.29	-20.7%	2060
North Dakota	8.71	13.38	15.14	16.18	18.97	14.12	14.68	13.95	16.34	14.49	15.03	14.70	13.14	13.23	12.73	12.72	13.05	13.25	$-1.89	-12.5%	2085
Ohio	7.09	8.03	7.98	7.93	6.82	7.41	8.17	8.41	8.46	8.51	7.66	7.08	7.08	7.16	7.24	6.99	7.11	7.16	$-0.82	-10.3%	2216
Oklahoma	9.17	10.69	11.02	11.13	11.78	11.22	11.08	9.52	10.49	11.16	11.15	11.30	10.19	9.83	9.56	10.13	10.32	10.78	$-0.24	-2.2%	2162
Oregon	12.08	13.38	13.25	12.62	10.27	9.61	10.05	9.73	9.61	9.36	9.37	9.45	7.81	7.37	7.47	7.08	7.46	7.27	$-5.98	-45.1%	2029
Pennsylvania	8.17	9.39	8.46	8.12	7.36	5.83	7.26	6.94	6.99	6.84	6.67	6.01	6.18	6.18	6.14	5.81	5.74	5.75	$-2.71	-32.0%	2054
Rhode Island	9.99	11.97	10.48	10.23	9.50	9.16	8.95	8.88	8.62	7.88	6.15	6.16	5.62	5.90	5.86	5.51	5.71	5.90	$-4.58	-43.7%	2018
So Carolina	17.06	16.05	16.36	16.31	15.89	13.82	15.13	13.66	13.66	13.47	11.97	11.50	10.18	10.36	10.17	10.01	10.07	9.81	$-6.55	-40.0%	2025
South Dakota	9.98	11.41	11.09	10.54	9.64	7.81	7.93	8.85	9.46	9.34	8.85	9.24	9.22	8.78	8.26	8.30	7.88	8.05	$-3.04	-27.4%	2097
Tennessee	10.05	9.80	11.28	11.15	10.05	9.14	11.15	11.09	10.71	10.25	8.93	9.16	9.06	9.21	8.96	8.45	7.75	7.73	$-3.55	-31.5%	2060
Texas	9.44	13.33	11.94	13.08	13.99	12.84	10.97	9.92	10.68	9.67	9.90	9.37	9.85	9.01	9.05	8.00	8.35	7.67	$-4.27	-35.8%	2027
Utah	16.08	17.34	17.58	16.93	15.54	14.10	15.52	14.07	13.21	13.25	13.21	13.36	12.84	13.25	12.97	12.86	11.99	11.80	$-5.78	-32.9%	2047
Vermont	10.70	8.62	9.41	8.46	8.44	7.92	7.80	7.00	7.03	6.45	5.64	5.38	5.03	4.75	4.78	4.41	4.31	4.36	$-5.05	-53.7%	2015
Virginia	10.31	11.00	12.08	11.24	10.81	9.84	10.27	10.27	10.42	9.34	8.43	7.40	7.03	6.99	6.65	6.76	6.85	7.35	$-4.73	-39.2%	2023
Washington	13.15	14.00	13.81	14.59	11.66	11.01	10.59	10.13	10.32	10.00	9.74	9.31	8.81	8.24	8.33	8.33	7.92	7.73	$-6.08	-44.0%	2026
West Virginia	12.53	12.91	13.31	12.88	12.60	11.41	12.27	11.66	11.42	11.46	11.29	11.05	10.69	10.34	10.50	10.52	10.64	10.65	$-2.66	-20.0%	2081
Wisconsin	15.08	13.94	13.53	13.30	12.06	11.69	11.02	10.60	10.55	10.54	10.02	10.16	9.76	9.81	9.15	8.48	8.32	8.32	$-5.21	-38.5%	2034
Wyoming	14.67	14.74	15.31	14.12	16.04	16.64	17.65	17.61	17.81	17.54	16.93	15.69	14.74	13.87	13.34	13.60	13.02	12.88	$-2.43	-15.9%	2110
All States	**$10.36**	**$11.05**	**$11.22**	**$11.16**	**$10.64**	**$10.45**	**$10.22**	**$9.68**	**$9.74**	**$9.38**	**$8.62**	**$8.21**	**$7.96**	**$7.99**	**$7.88**	**$7.65**	**$7.65**	**$7.82**	**$-3.40**	**-30.3%**	**2037**

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We calculate our figures using 1998-99 state tax fund appropriations and 1997 state personal income. This ratio could be expressed in several ways, e.g. percent of total. We have chosen the expression of so many dollars appropriated per $1000 of personal income.

State Investment in Higher Education

For FY1999, states appropriated $52.8 billion of state tax funds for higher education. By comparison, states appropriated $49.5 billion for FY1998, and $46.6 billion for FY1997.

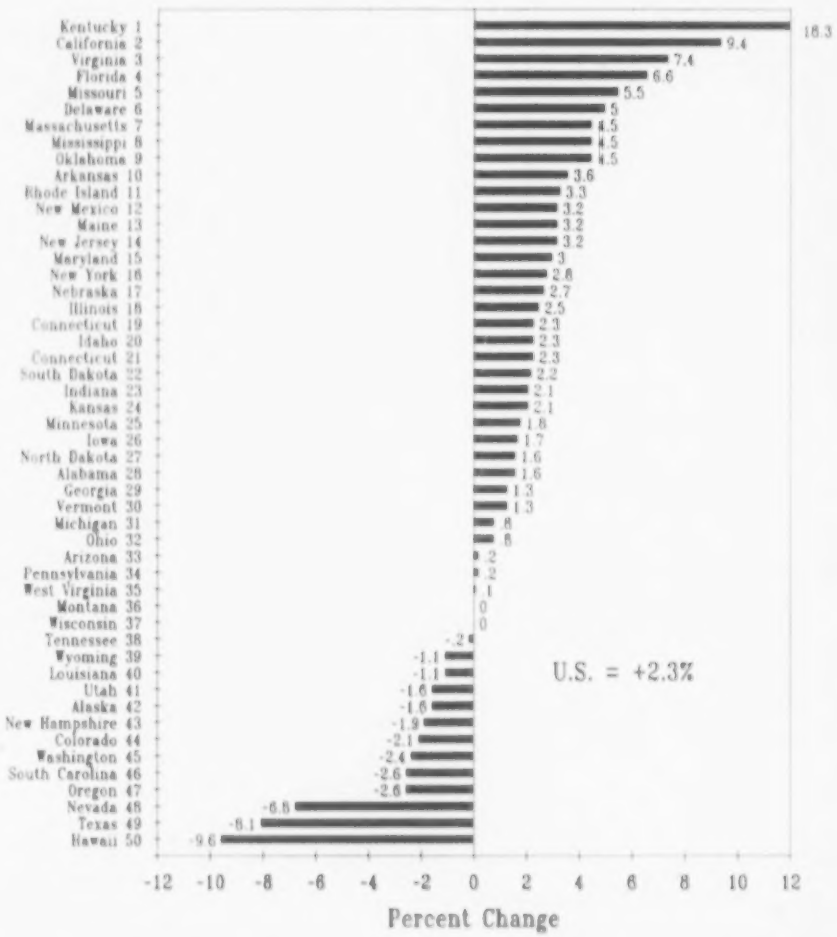
In FY1999, state tax fund appropriations per $1000 of personal income were $7.82 for all 50 states, as shown in the chart on page 1 of this issue of OPPORTUNITY. This was 2.2 percent above the rate of $7.65 for both FY1998 and FY1997. These last three years are the lowest three years on record since these numbers were first calculated and reported by *The Chronicle of Higher Education* in FY1975. These higher education reductions in the 1990s have occurred during a prolonged period of national economic growth.

Between FY1998 and FY1999, state tax fund appropriations per $1000 of personal income for higher education increased in 35 states, held constant in 2 states, and declined in the remaining 13 states.

By far the biggest winner between FY1998 and FY1999 was higher education in **Kentucky**. State appropriations increased from $9.33 to $11.04, or by more than 18 percent. Other states with state tax fund increases of 5 percent or more were **California, Virginia, Florida, Missouri** and **Delaware.**

The state with the largest loss in support for higher education was

Change in State Appropriation of Tax Funds for Higher Education per $1000 of Personal Income FY1998 and FY1999



Hawaii, where state support declined from $11.59 in FY1998 to $10.48 in FY1999. Hawaii's economy remains in recession and Hawaii has apparently decided that higher education should receive a shrinking share of a shrinking economy. Other states that sharply reduced state support for higher education were **Texas** and **Nevada**, where higher education took large hits.

Trends

Expressed as a proportion of each state's personal income (tax base), state tax fund appropriations for higher education rose from $10.36 in FY1975 to its peak of $11.22 in FY1979, and has declined almost continuously and very substantially since then. The FY1999 state's appropriation of $7.82 per $1000 of personal income was $3.40 below the peak twenty years earlier. This was 30.3 percent below the FY1979 peak state tax effort in support of higher education.

This shortfall may sound modest. But converted to dollars it takes on a different meaning. Actually in FY1979 states appropriated $52.8

State Appropriations for Higher Education per $1000 of Personal Income in F1999 with Comparisons to FY1990 and FY1979 State Appropriations Support Levels

State	FY1999 Approps (000)	CY1997 Personal Income (000,000)	FY1999 Approps per $1000 Pers Incm	FY1990 Approps per $1000 Pers Incm	FY1999 Approps at FY90 (000)	Difference (000)	FY1979 Approps per $1000 Pers Incm	FY1999 Approps at FY79 (000)	Difference (000)
Alabama	$1,028,644	$89,403	$11.51	$14.73	$1,316,906	$-288,262	$18.04	$1,612,830	$-584,186
Alaska	$170,403	$15,199	$11.21	$17.59	$267,350	$-96,947	$16.64	$252,911	$-82,508
Arizona	$836,538	$100,182	$8.35	$10.91	$1,092,986	$-256,448	$14.60	$1,462,657	$-626,119
Arkansas	$556,447	$49,453	$11.25	$10.29	$508,871	$47,576	$11.81	$584,040	$-27,593
California	$7,309,377	$846,017	$8.64	$10.81	$9,145,444	$-1,836,067	$13.47	$11,395,849	$-4,086,472
Colorado	$682,210	$105,158	$6.49	$9.29	$976,918	$-294,708	$12.66	$1,331,300	$-649,090
Connecticut	$626,878	$117,564	$5.33	$6.22	$731,248	$-104,370	$8.26	$971,079	$-344,201
Delaware	$168,601	$20,808	$8.10	$9.91	$206,207	$-37,606	$10.91	$227,015	$-58,414
Florida	$2,498,665	$363,347	$6.88	$7.66	$2,783,238	$-284,573	$9.48	$3,444,530	$-945,865
Georgia	$1,483,818	$178,870	$8.30	$9.14	$1,634,872	$-151,054	$11.42	$2,042,695	$-558,877
Hawaii	$319,421	$30,479	$10.48	$15.90	$484,616	$-165,195	$16.80	$512,047	$-192,626
Idaho	$265,708	$24,681	$10.77	$12.46	$307,525	$-41,817	$16.34	$403,288	$-137,580
Illinois	$2,410,044	$332,241	$7.25	$8.21	$2,727,699	$-317,655	$9.34	$3,103,131	$-693,087
Indiana	$1,147,816	$135,945	$8.44	$9.82	$1,334,980	$-187,164	$10.42	$1,416,547	$-268,731
Iowa	$785,230	$66,110	$11.88	$12.09	$799,270	$-14,040	$13.77	$910,335	$-125,105
Kansas	$600,413	$62,312	$9.64	$11.31	$704,749	$-104,336	$13.39	$834,358	$-233,945
Kentucky	$888,700	$80,503	$11.04	$11.51	$926,590	$-37,890	$13.27	$1,068,275	$-179,575
Louisiana	$747,821	$89,094	$8.39	$9.65	$859,757	$-111,936	$12.03	$1,071,801	$-323,980
Maine	$200,149	$27,236	$7.35	$9.71	$264,462	$-64,313	$7.87	$214,347	$-14,198
Maryland	$940,073	$146,060	$6.44	$9.14	$1,334,988	$-394,915	$9.34	$1,364,200	$-424,127
Massachusetts	$997,595	$190,908	$5.23	$6.66	$1,271,447	$-273,852	$6.51	$1,242,811	$-245,216
Michigan	$1,882,500	$244,329	$7.70	$9.21	$2,250,270	$-367,770	$10.55	$2,577,671	$-695,171
Minnesota	$1,239,394	$123,207	$10.06	$13.19	$1,625,100	$-385,706	$13.88	$1,710,113	$-470,719
Mississippi	$786,969	$49,386	$15.94	$14.87	$734,370	$52,599	$18.22	$899,813	$-112,844
Missouri	$919,548	$128,151	$7.18	$7.60	$973,948	$-54,400	$8.92	$1,143,107	$-223,559
Montana	$129,929	$17,316	$7.50	$10.57	$183,030	$-53,101	$11.81	$204,502	$-74,573
Nebraska	$442,020	$39,195	$11.28	$12.27	$480,923	$-38,903	$13.40	$525,213	$-83,193
Nevada	$290,363	$44,524	$6.52	$7.94	$353,521	$-63,158	$9.91	$441,233	$-150,870
New Hampshire	$91,837	$32,608	$2.82	$3.53	$115,106	$-23,269	$4.97	$162,062	$-70,225
New Jersey	$1,445,843	$259,567	$5.57	$6.73	$1,746,886	$-301,043	$6.33	$1,643,059	$-197,216
New Mexico	$517,247	$33,297	$15.53	$15.75	$524,428	$-7,181	$16.42	$546,737	$-29,490
New York	$3,033,704	$549,531	$5.52	$9.21	$5,061,181	$-2,027,477	$10.52	$5,781,066	$-2,747,362
North Carolina	$2,171,339	$172,073	$12.62	$15.71	$2,703,267	$-531,928	$15.91	$2,737,681	$-566,342
North Dakota	$171,690	$12,954	$13.25	$16.34	$211,668	$-39,978	$15.14	$196,124	$-24,434
Ohio	$1,939,438	$270,741	$7.16	$8.46	$2,290,469	$-351,031	$7.98	$2,160,513	$-221,075
Oklahoma	$723,051	$67,052	$10.78	$10.49	$703,375	$19,676	$11.02	$738,913	$-15,862
Oregon	$565,462	$77,791	$7.27	$9.61	$747,572	$-182,110	$13.25	$1,030,731	$-465,269
Pennsylvania	$1,775,307	$308,640	$5.75	$6.99	$2,157,394	$-382,087	$8.46	$2,611,094	$-835,787
Rhode Island	$149,563	$25,366	$5.90	$8.62	$218,655	$-69,092	$10.48	$265,836	$-116,273
South Carolina	$761,931	$77,650	$9.81	$13.66	$1,060,699	$-298,768	$16.36	$1,270,354	$-508,423
South Dakota	$125,882	$15,632	$8.05	$9.46	$147,879	$-21,997	$11.09	$173,359	$-47,477
Tennessee	$944,435	$122,136	$7.73	$10.71	$1,308,077	$-363,642	$11.28	$1,377,694	$-433,259
Texas	$3,527,867	$459,688	$7.67	$10.68	$4,909,468	$-1,381,601	$11.94	$5,488,675	$-1,960,808
Utah	$492,035	$41,689	$11.80	$13.21	$550,712	$-58,677	$17.58	$732,893	$-240,858
Vermont	$59,173	$13,557	$4.36	$7.03	$95,306	$-36,133	$9.41	$127,571	$-68,398
Virginia	$1,296,078	$176,245	$7.35	$10.42	$1,836,473	$-540,395	$12.08	$2,129,040	$-832,962
Washington	$1,144,908	$148,182	$7.73	$10.32	$1,529,238	$-384,330	$13.81	$2,046,393	$-901,485
West Virginia	$362,261	$34,017	$10.65	$11.42	$388,474	$-26,213	$13.31	$452,766	$-90,505
Wisconsin	$1,040,341	$125,100	$8.32	$10.55	$1,319,805	$-279,464	$13.53	$1,692,603	$-652,262
Wyoming	$139,711	$10,848	$12.88	$17.81	$193,203	$-53,492	$15.31	$166,083	$-26,372
Total	**$52,834,377**	**$6,752,042**	**$7.82**	**$9.74**	**$65,764,889**	**$-12,930,512**	**$11.22**	**$75,757,911**	**$-22,923,534**

billion for higher education. If states had appropriated the same share of personal income for higher education in FY1999 that they had in FY1979, they would have appropriated $75.8 billion, or $22.9 billion more than they did.

The downward trend in state appropriations for higher education can readily be extrapolated. If the trend over the last twenty years continues, aggregate state appropriations for higher education will reach zero in 2037.

The decline in state support for higher education since FY1979 has affected all states, but some far more than others. The decline in state tax fund appropriations per $1000 of personal income for higher education between FY1979 and FY1999 was least in

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Oklahoma (-2.2%), **Arkansas** (-4.7%), **New Mexico** (-5.4%) and **Maine** (-6.6%).

However, other states have nearly halved their state support for higher education over the last two decades. The states that have reduced their financial support for higher education by the largest amounts are **Vermont** (-53.7%), **Colorado** (-48.7%), **New York** (-47.5%), **Oregon** (-45.1%), **Washington** (-44.0%), **New Hampshire** (-43.3%), **Rhode Island** (-43.7%), **Arizona** (-42.8%) and **South Carolina** (-40.0%).

If these declines in state support between FY1979 and FY1999 continue, some states will reach zero state funding. The first state will be **Vermont** in 2015, followed by **New York** and **Rhode Island** in 2018, then **California** in 2020, **Alaska** in 2021, **Virginia** in 2023, **Colorado** in 2024, **Washington** in 2026, **Montana, Louisiana** and **Arizona** in 2028, and **Florida** in 2030.

The states have been especially unkind to higher education funding in the 1990s--during a decade of economic growth following the mild economic recession in the early 1990s. While state appropriations declined by 13.2 percent in the eleven years between FY1979 and FY1990, the decline was 19.7 percent between FY1990 and FY1999.

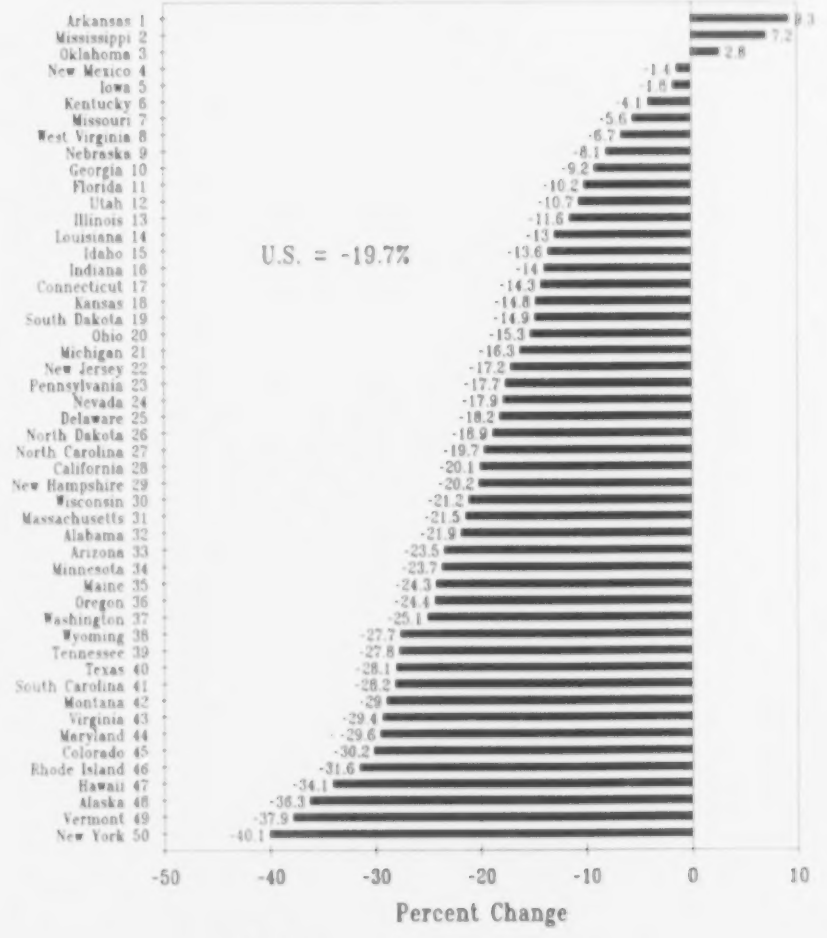
In the 1990s, only three states have managed to increase their state tax fund appropriations per $1000 for higher education. These states are **Arkansas** (+9.3%), **Mississippi** (+7.2%) and **Oklahoma** (+2.8%). All of the other 47 states have reduced their higher education support.

The biggest loser in the 1990s has been **New York** where state tax funding for higher education has declined by 40 percent. Other states that have reduced their state support by more than 30 percent in the 1990s have been **Vermont, Alaska, Hawaii, Rhode Island** and **Colorado**.

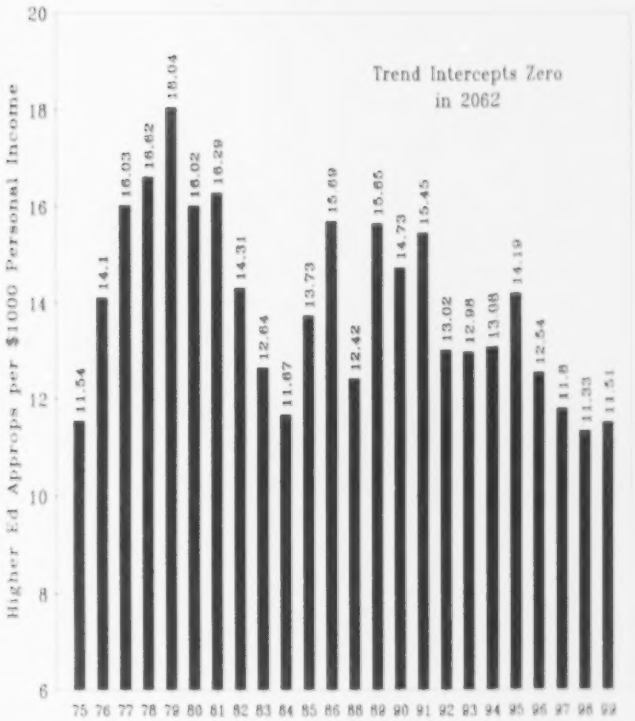
The remainder of this issue of OPPORTUNITY is devoted to telling the story of state support for higher education in each of the 50 states. For each state, state tax fund appropriations per $1000 of personal income are shown for the years from FY1975 to FY1999 (except for FY1987 which was never calculated). Also, each state's chart shows the year in which the trend between FY1979 and FY1999 will reach zero.

This analysis has not addressed the consequences of this reduction in state support for higher education. But its consequences that concern us. Higher educational opportunity, at the state level, requires capacity, quality and affordability. All cost money. The decline in state funding sacrifices one or more of these dimensions of opportunity--sometimes all three at once. Given the obvious and growing importance of higher education to state economic welfare and development, the cause of the investment reductions reported here remain the unsolved riddle of higher education finance.

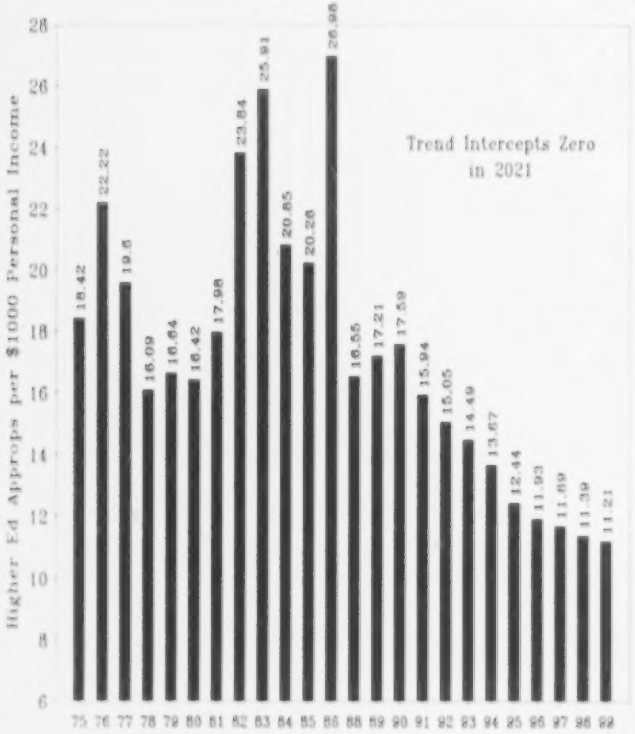
Change in Appropriations of State Tax Funds for Operating Expenses of Higher Education per $1000 of Personal Income FY1990 to FY1999



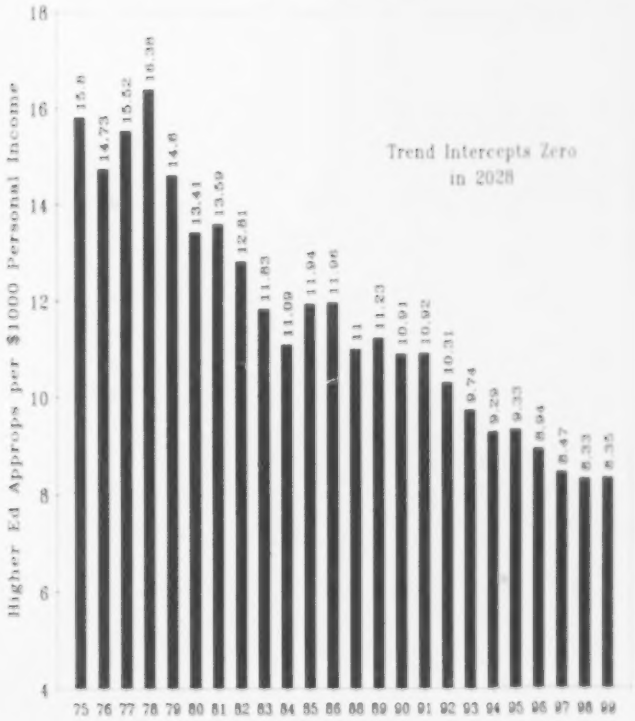
Alabama Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



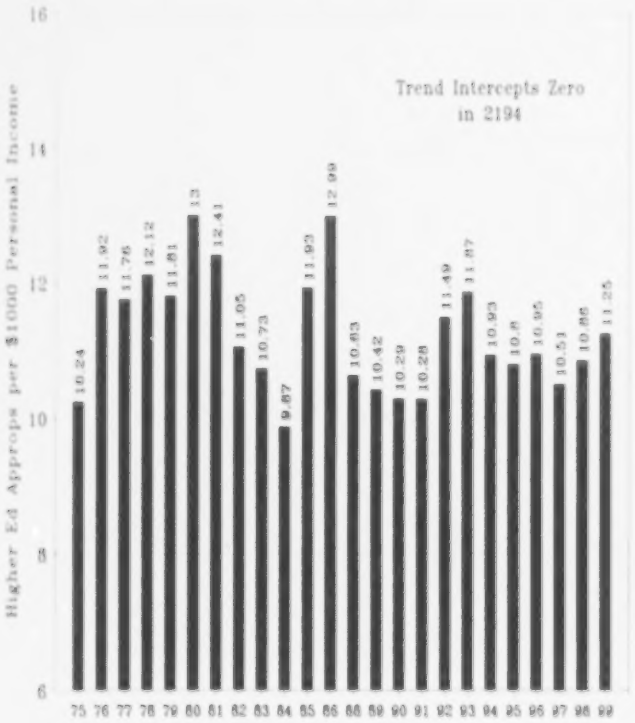
Alaska Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



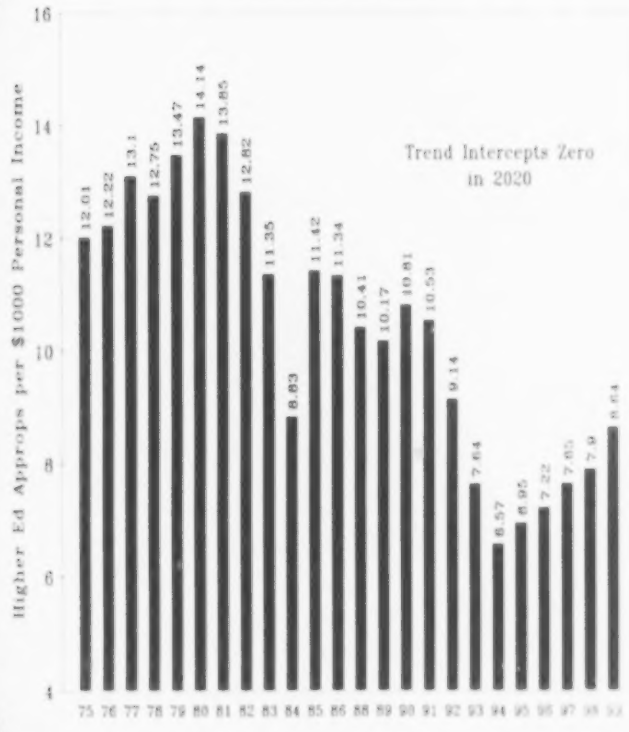
Arizona Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



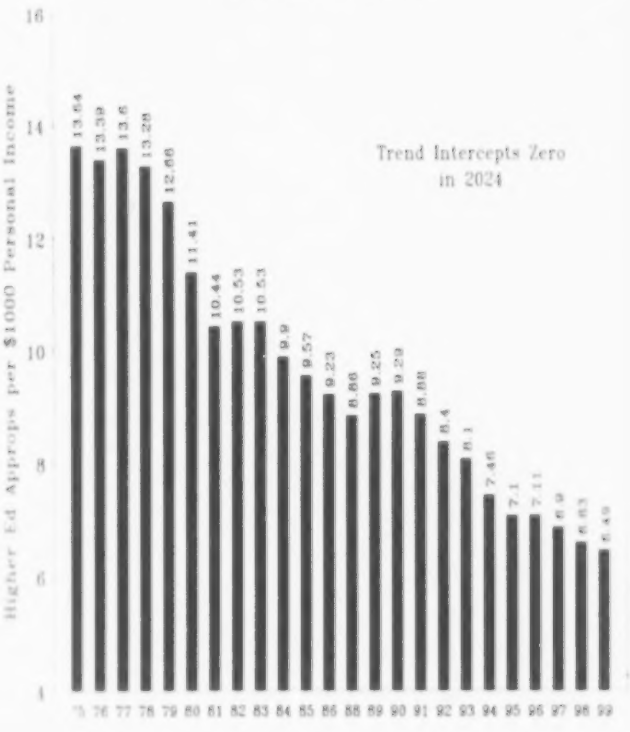
Arkansas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



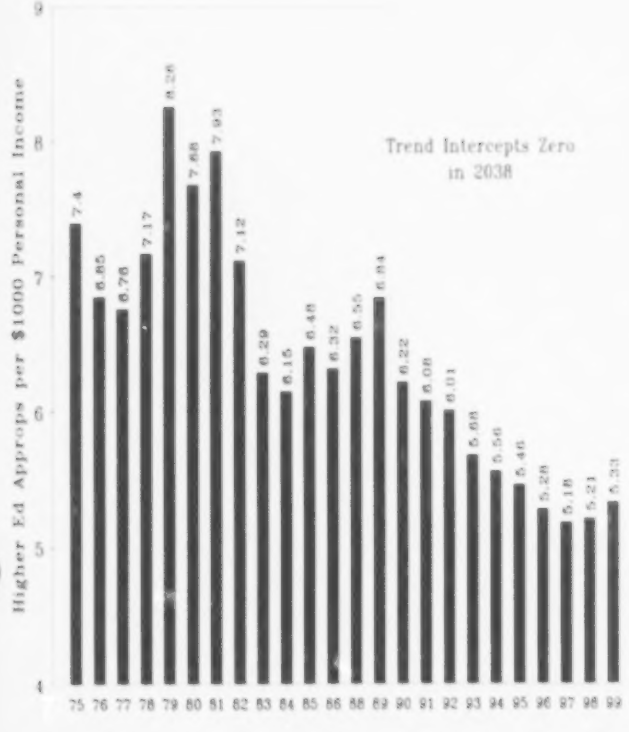
California Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



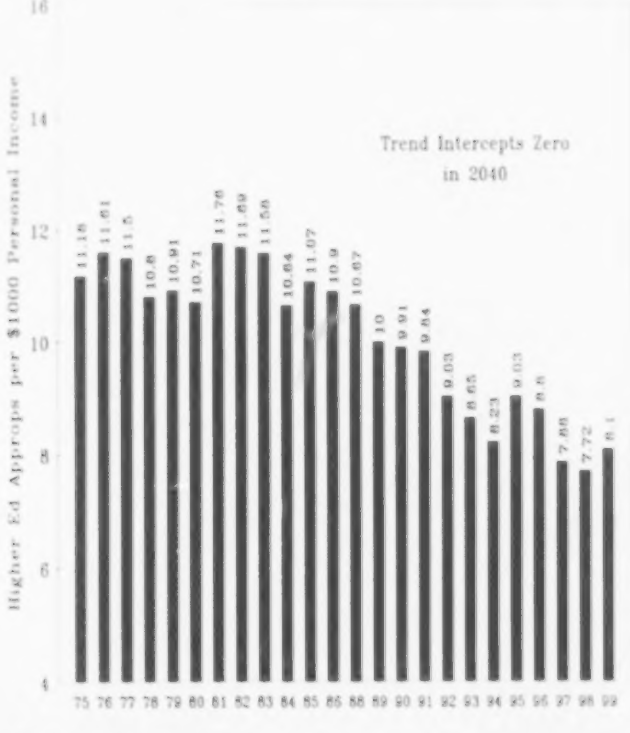
Colorado Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



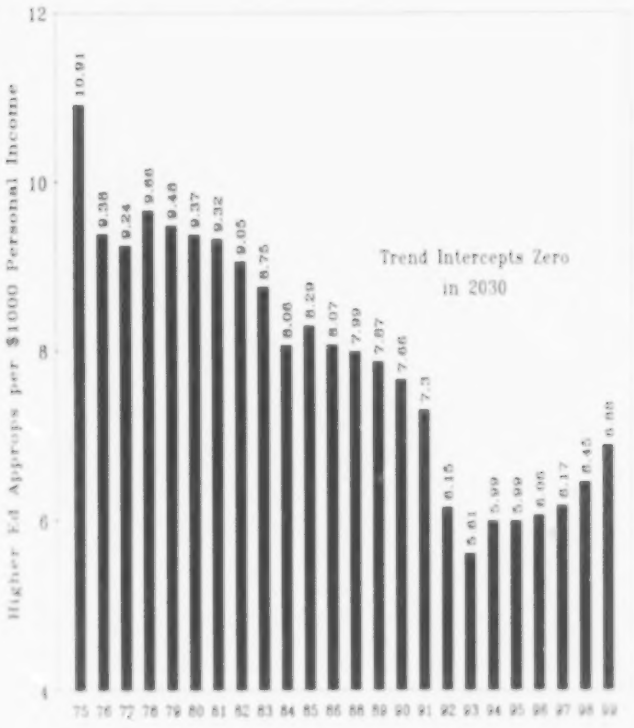
Connecticut Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



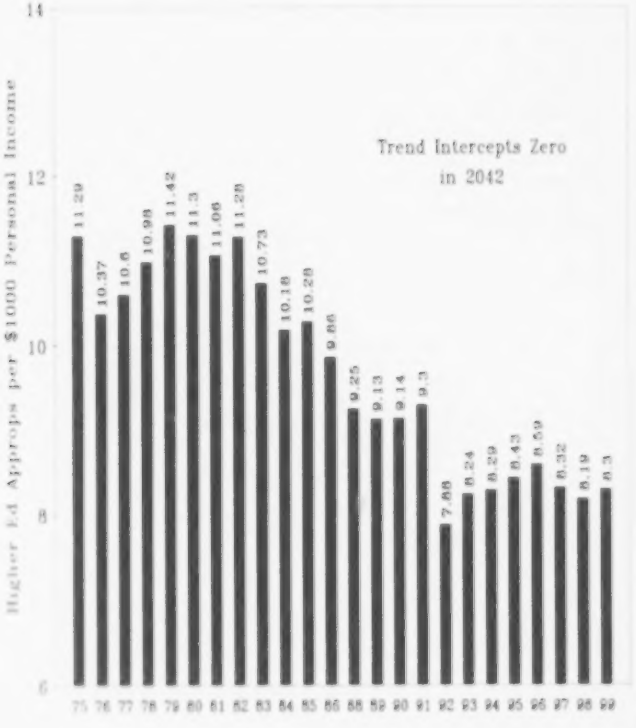
Delaware Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



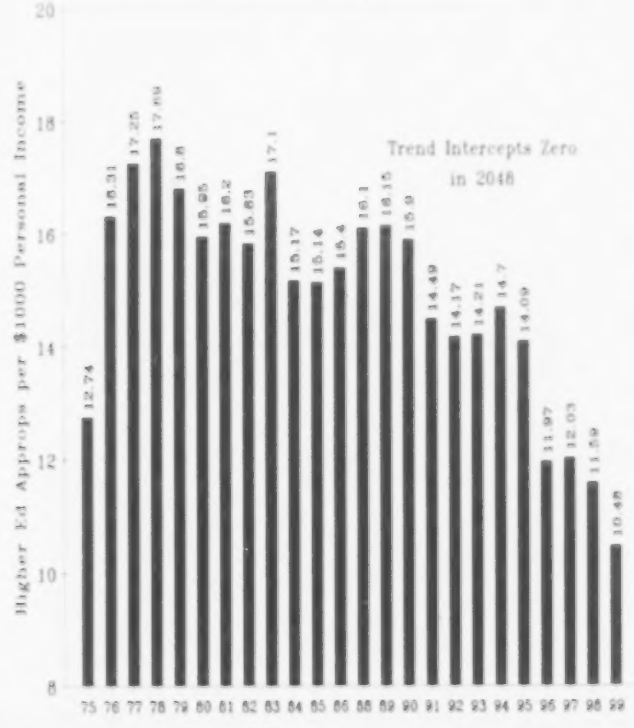
Florida Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



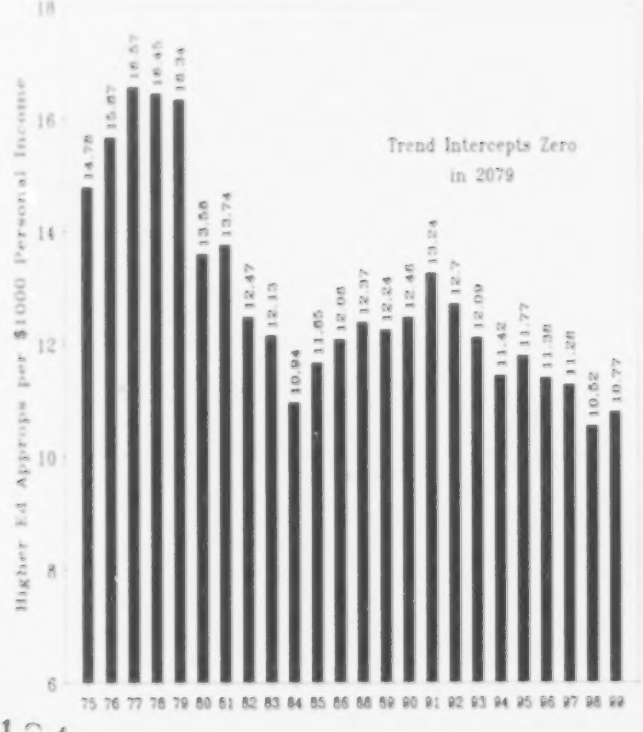
Georgia Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



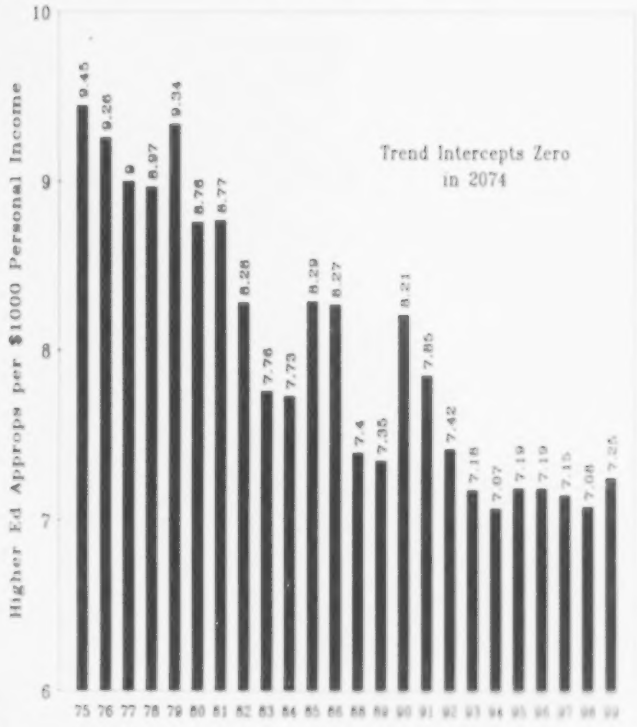
Hawaii Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



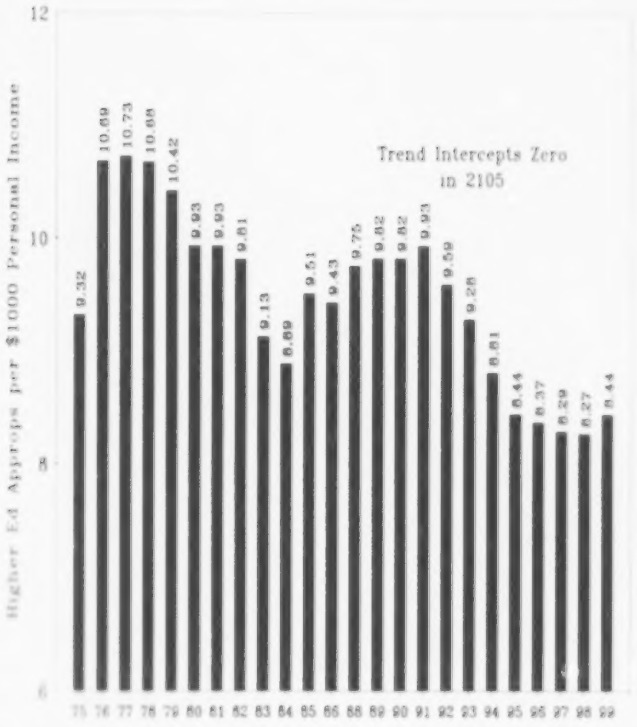
Idaho Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



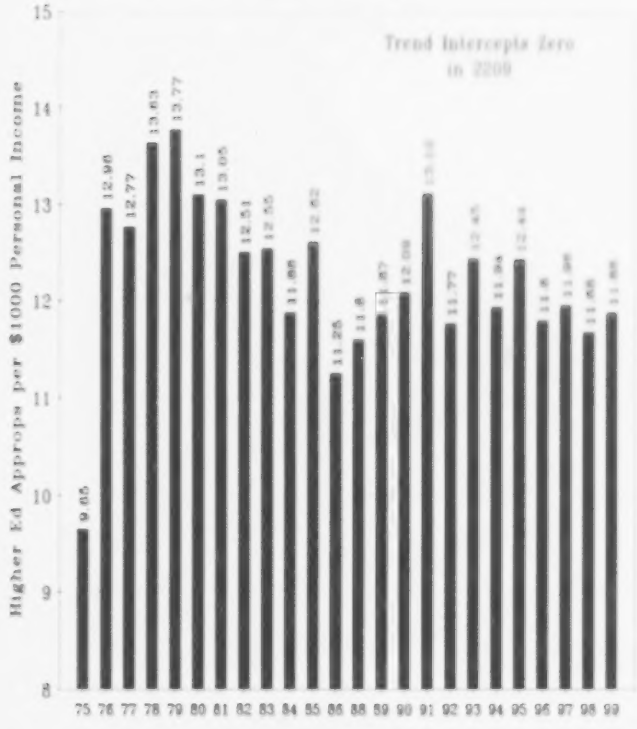
Illinois Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



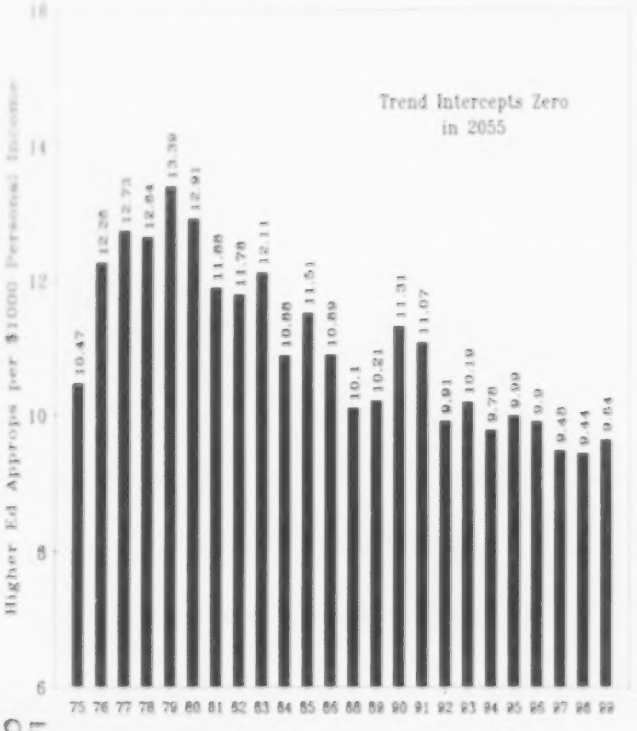
Indiana Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



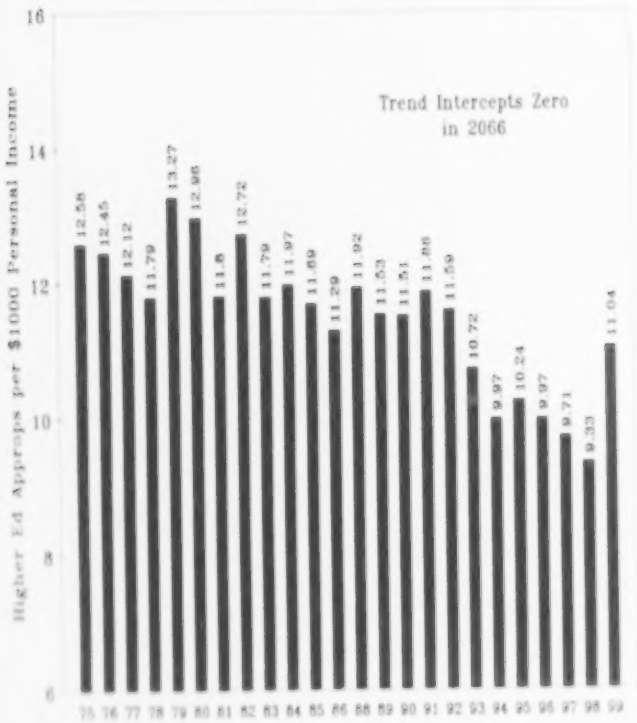
Iowa Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



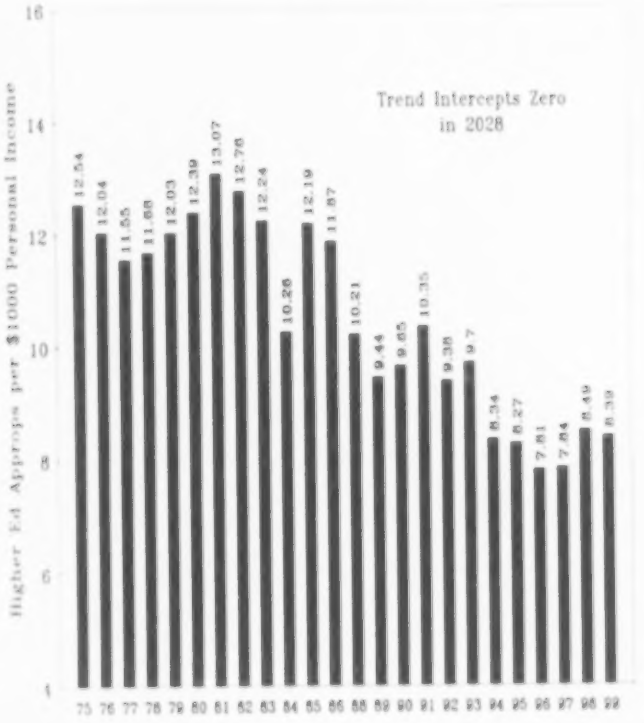
Kansas Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



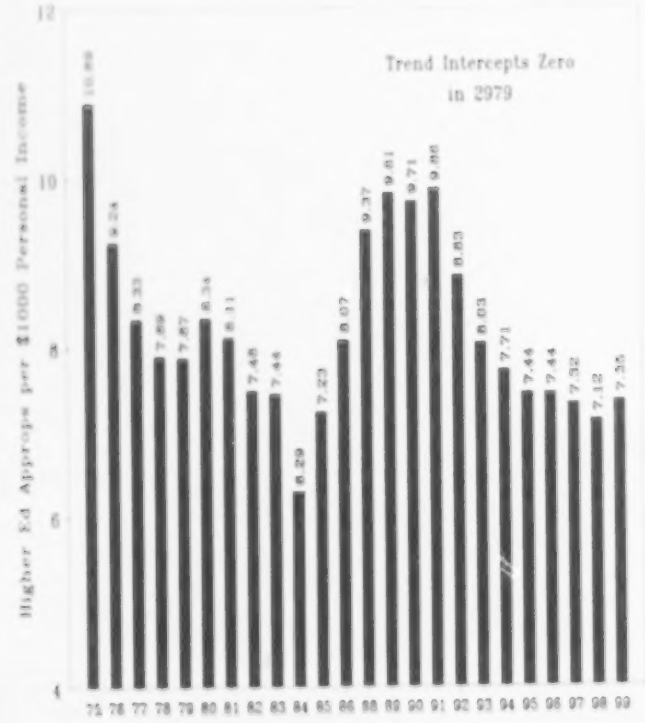
Kentucky Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



Louisiana Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



Maine Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



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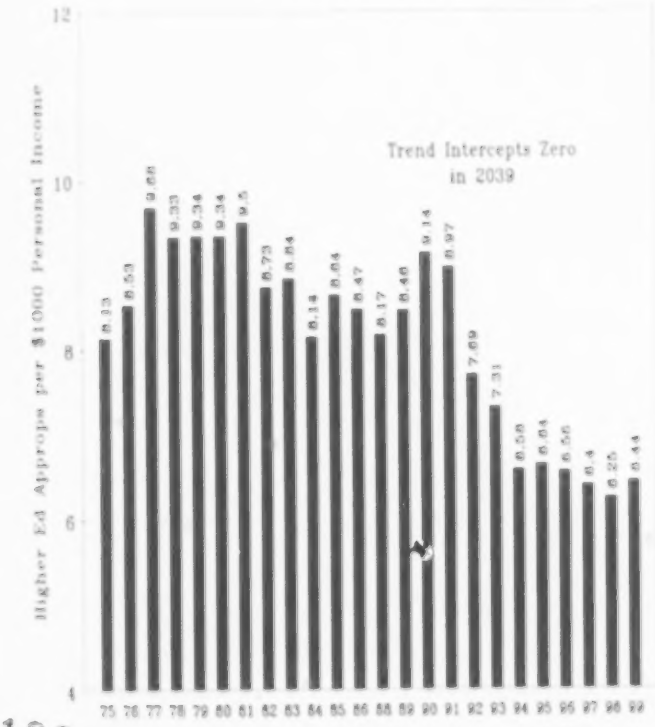

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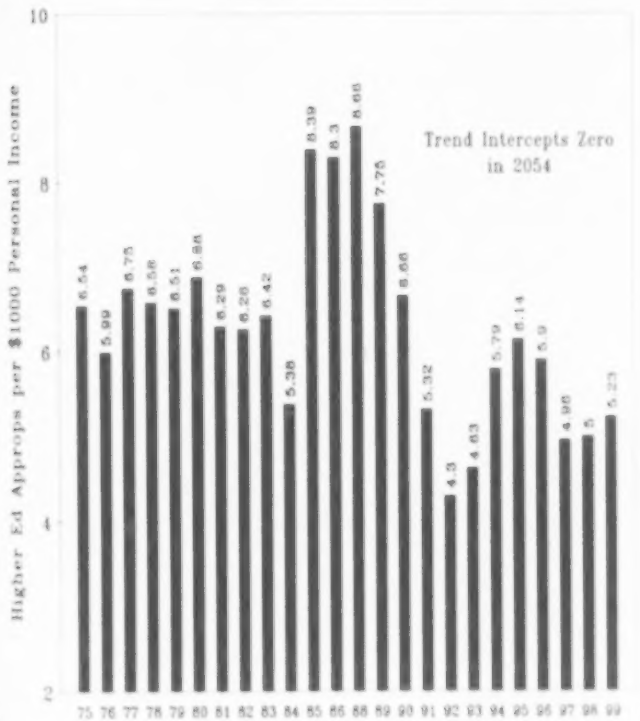

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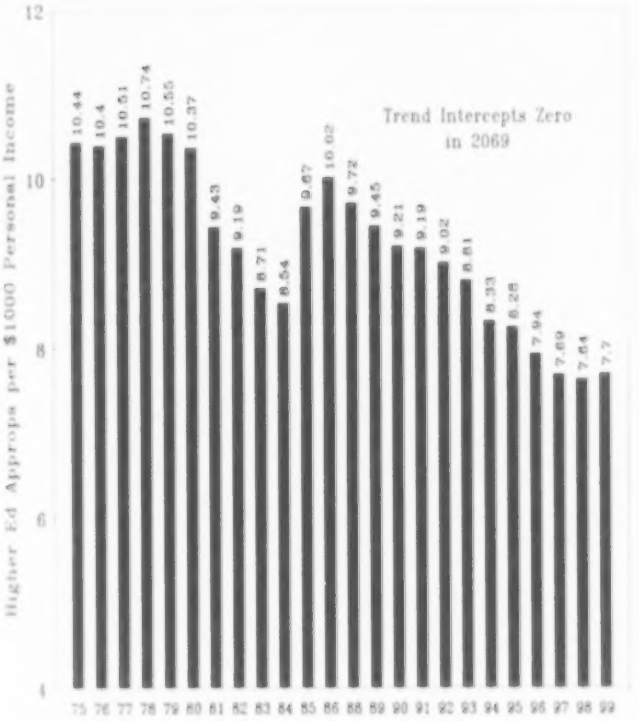

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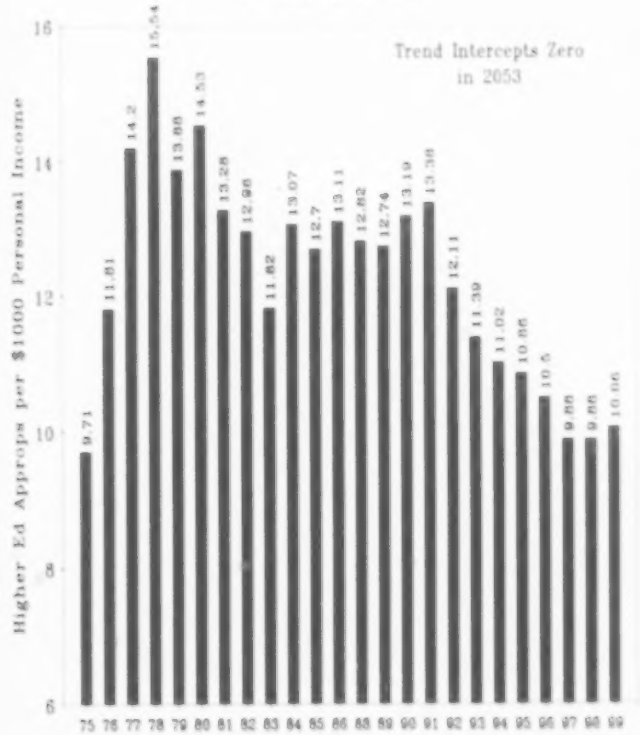

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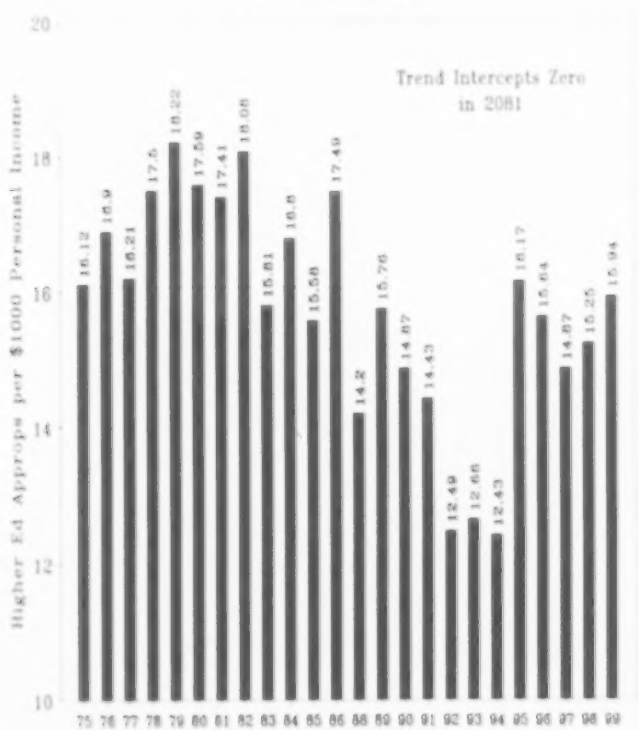

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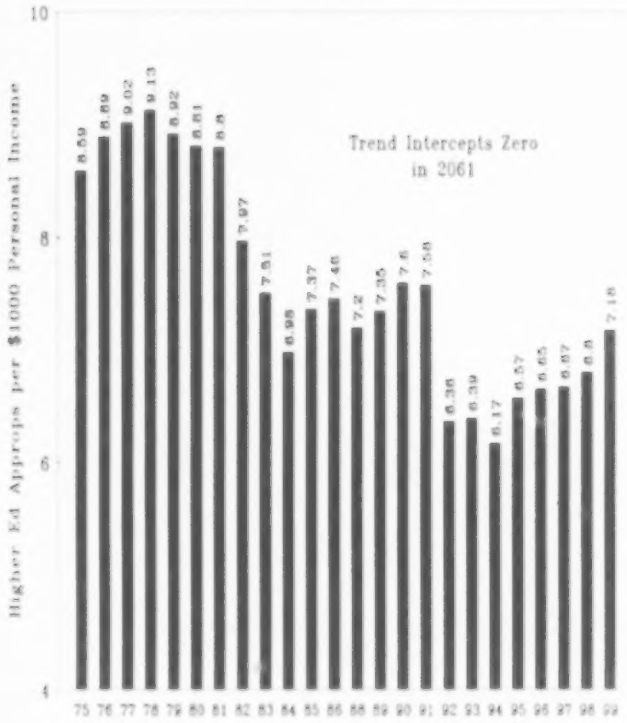

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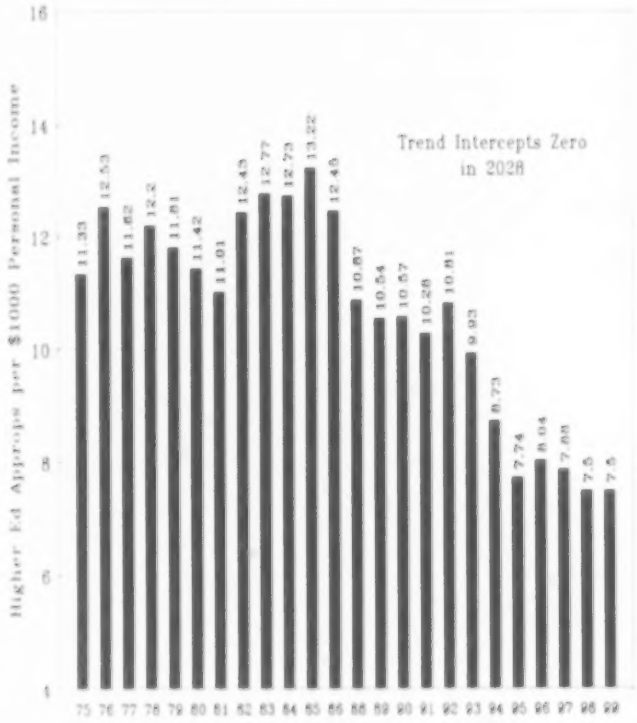

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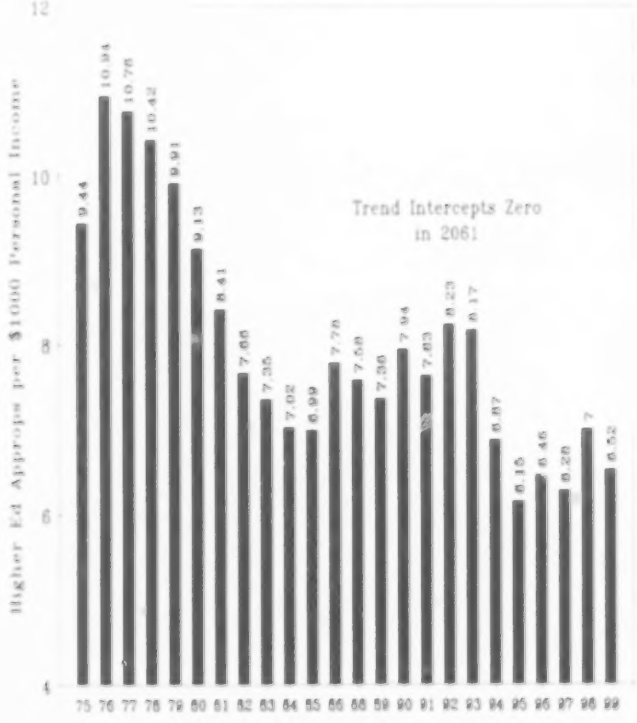
Nevada Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



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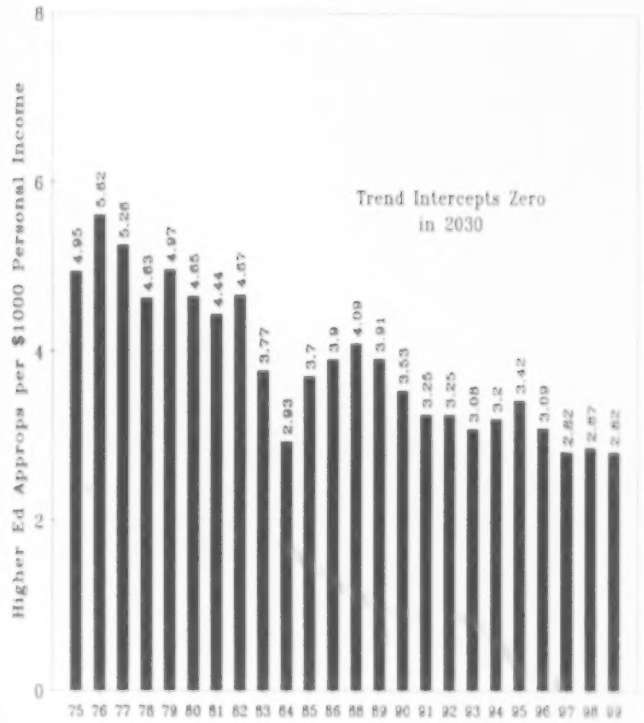

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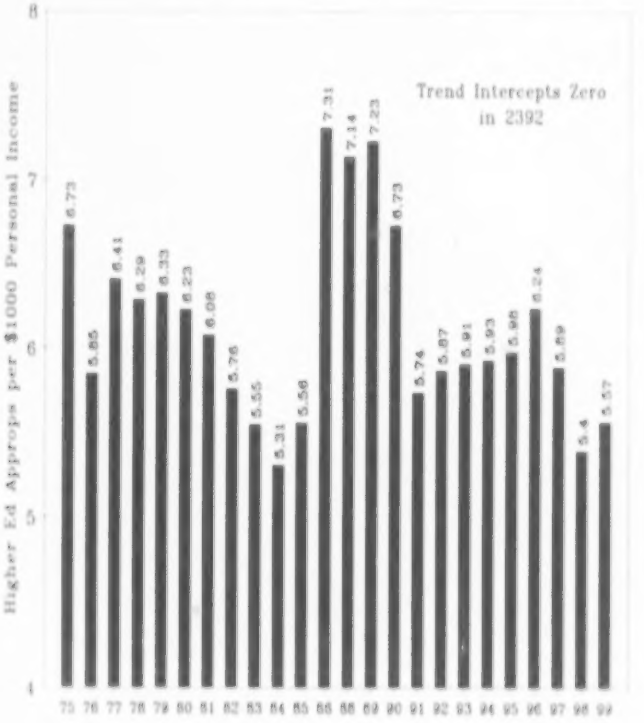

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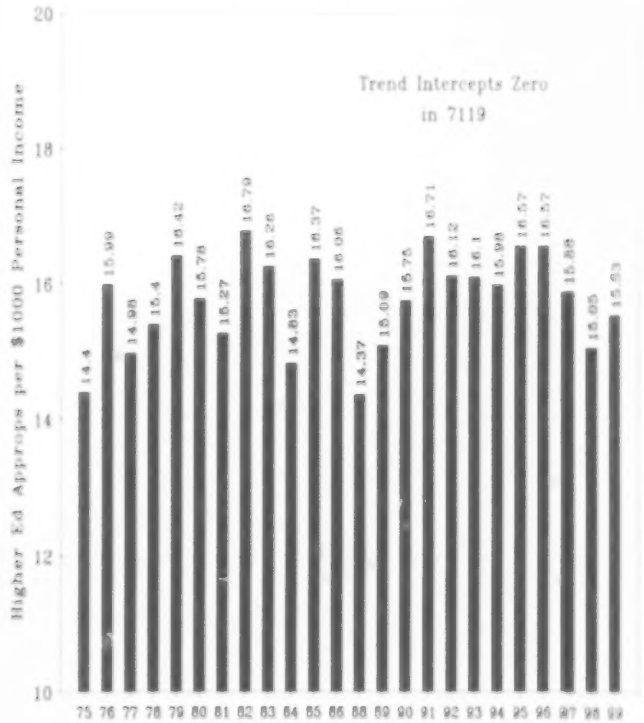

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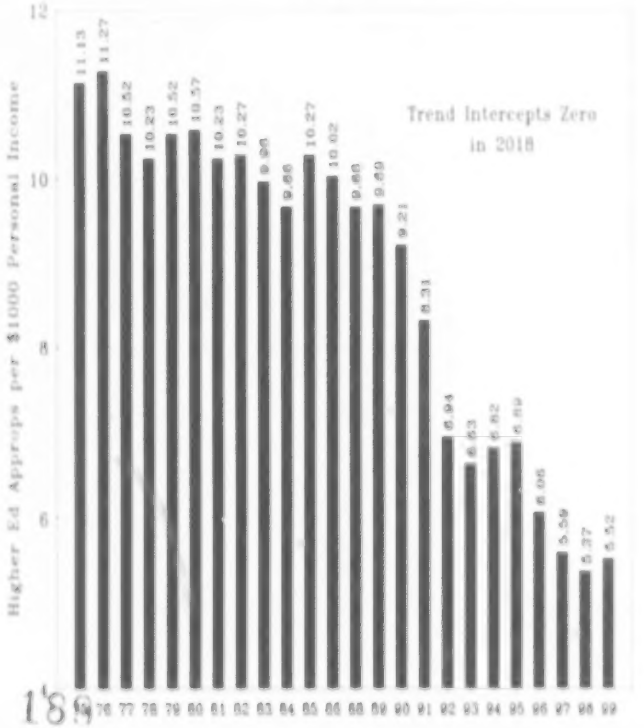

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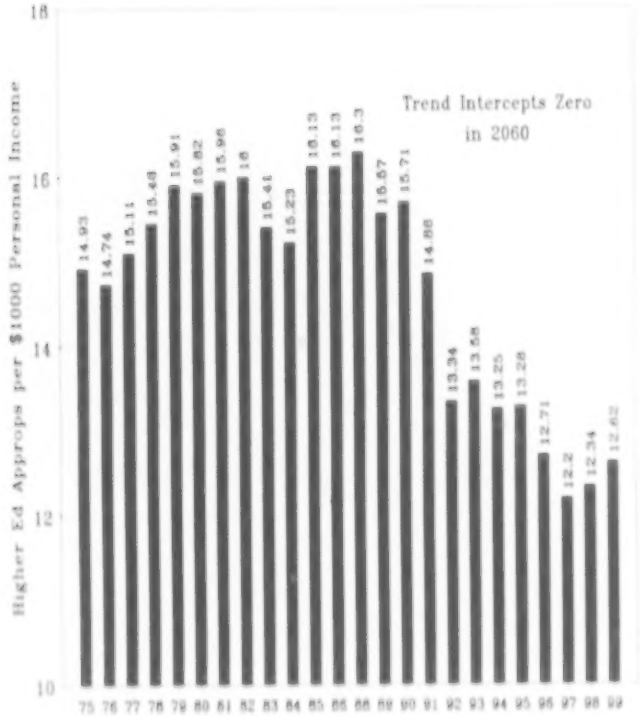

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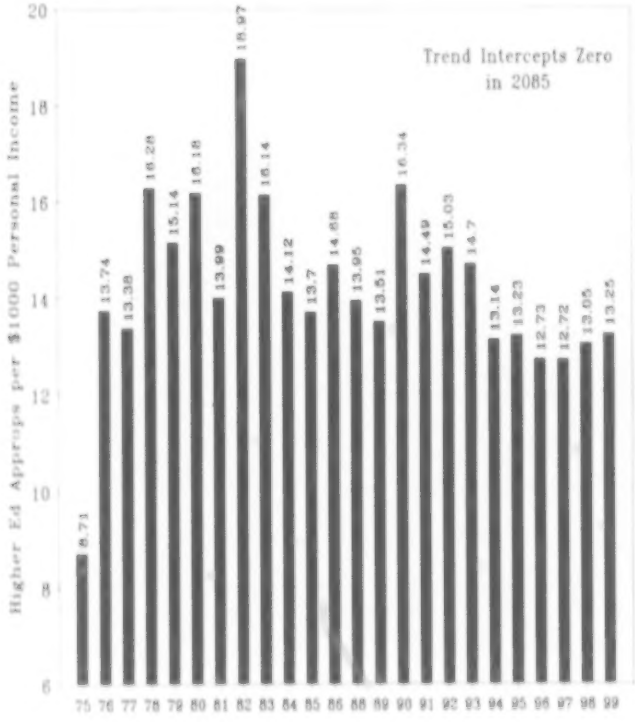
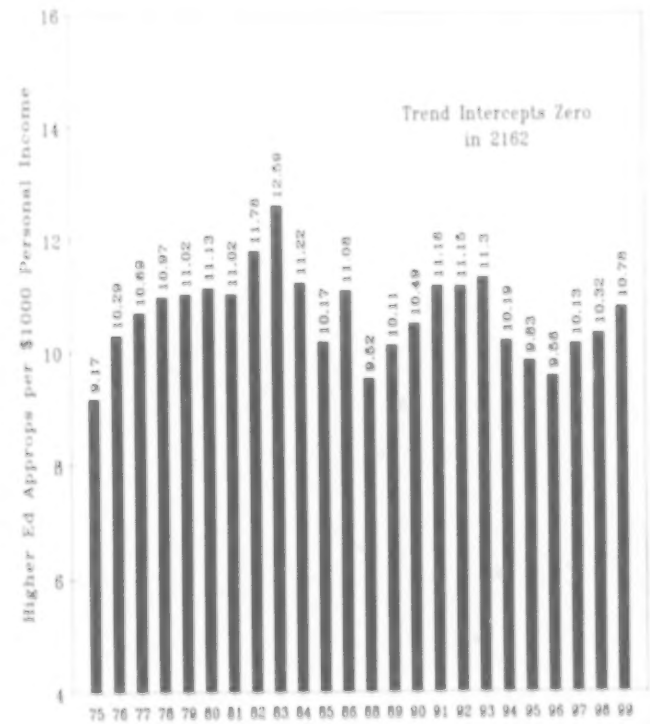


Ohio Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999

Oklahoma Appropriations of State Tax Funds for Higher Education per $1000 of Personal Income FY1975 to FY1999



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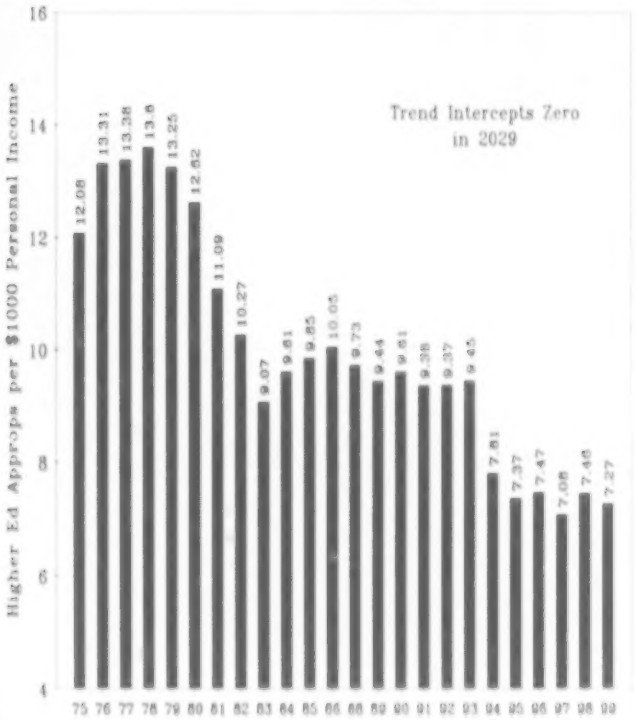

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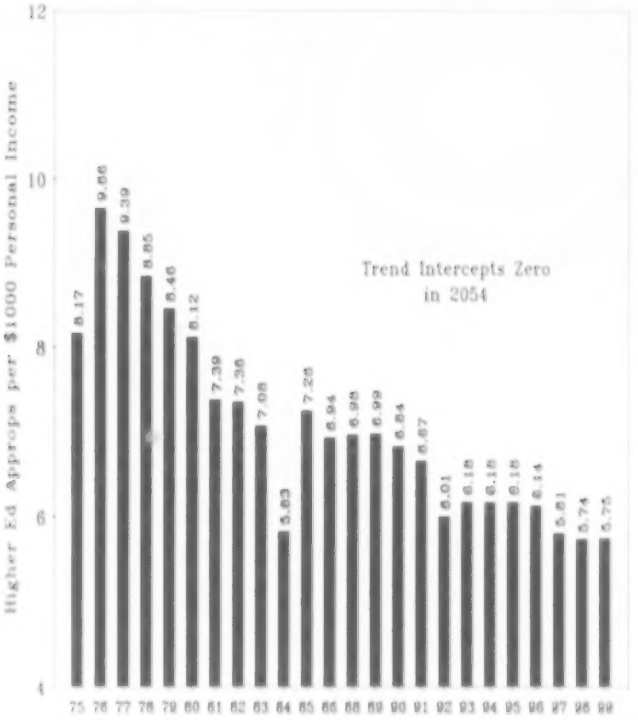

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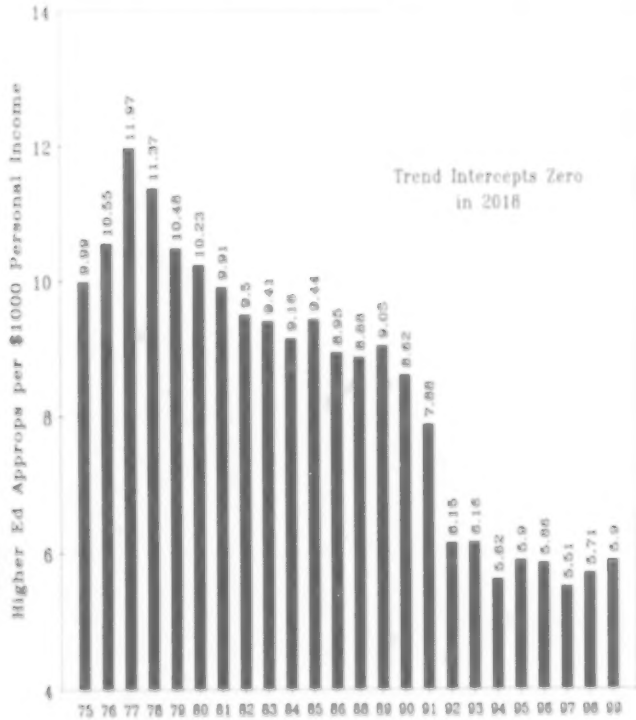

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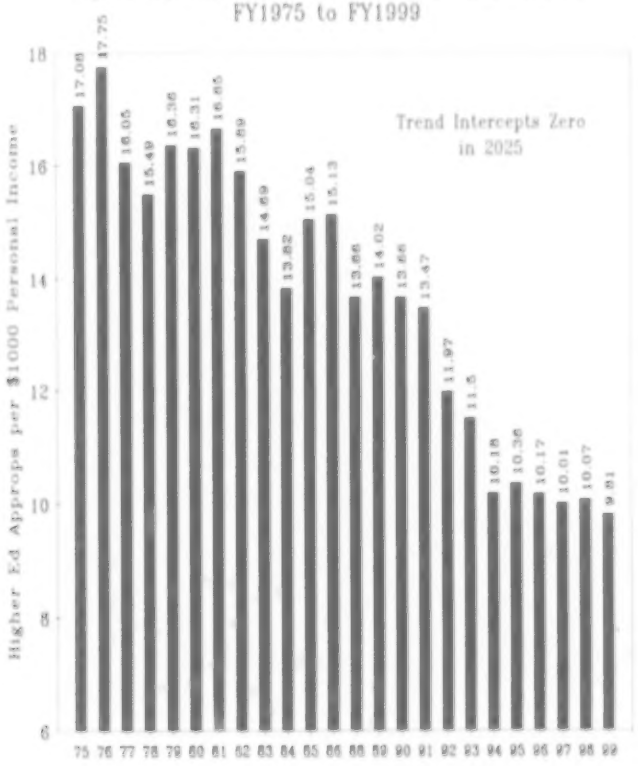

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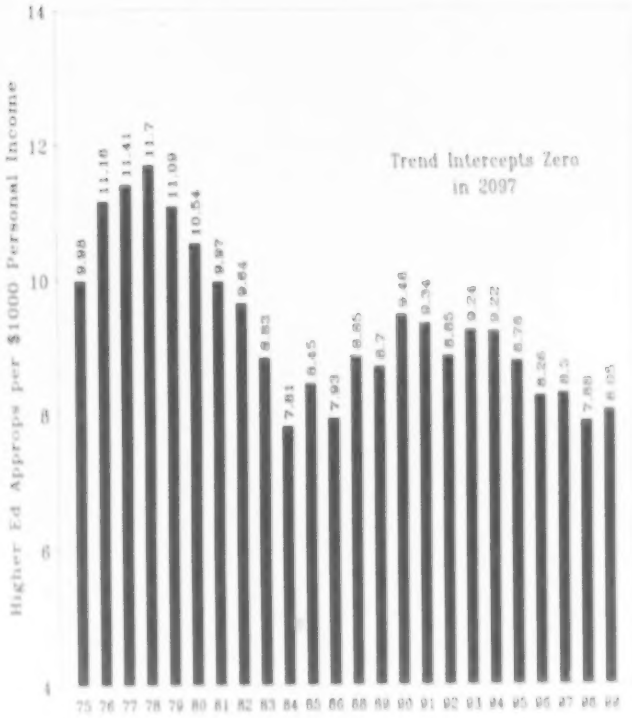

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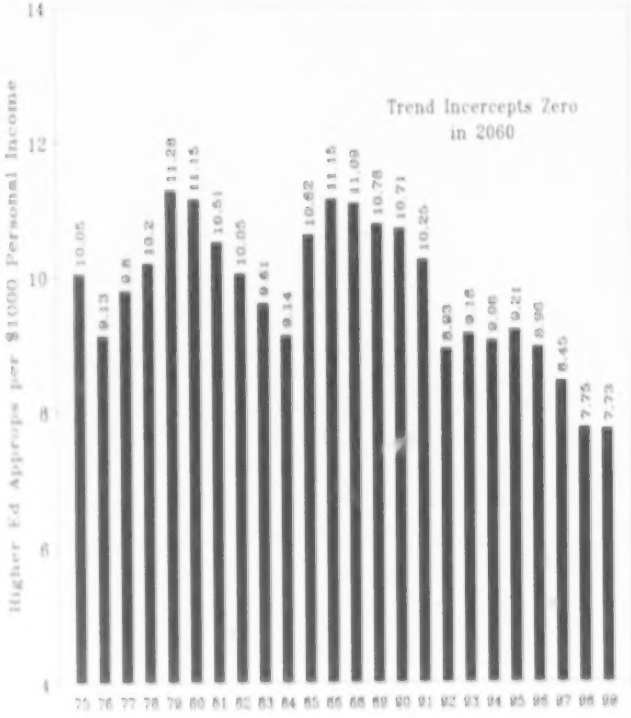

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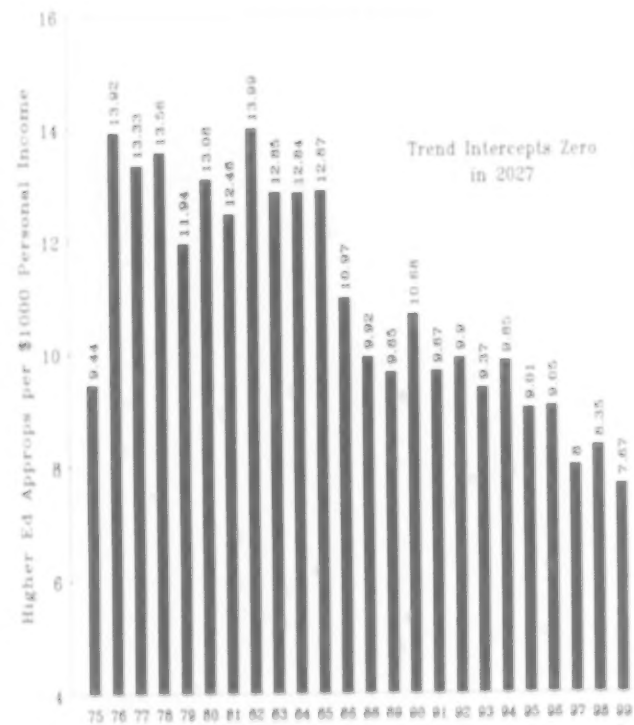

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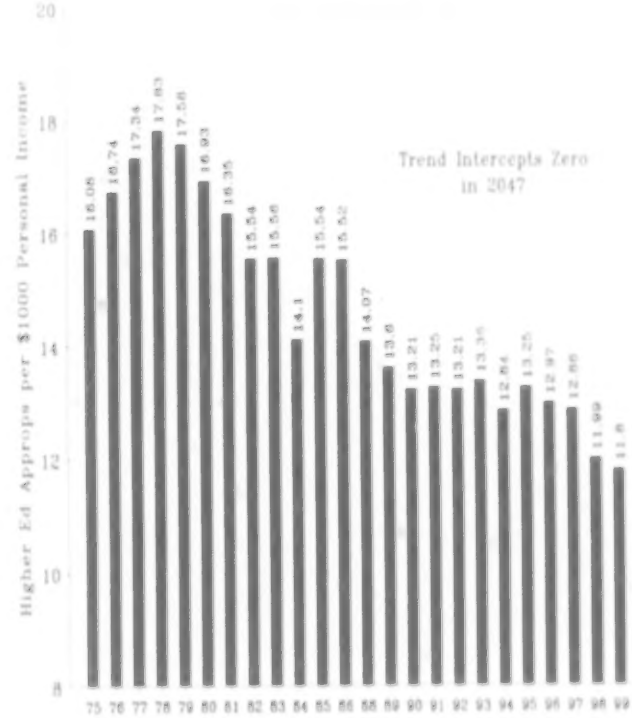

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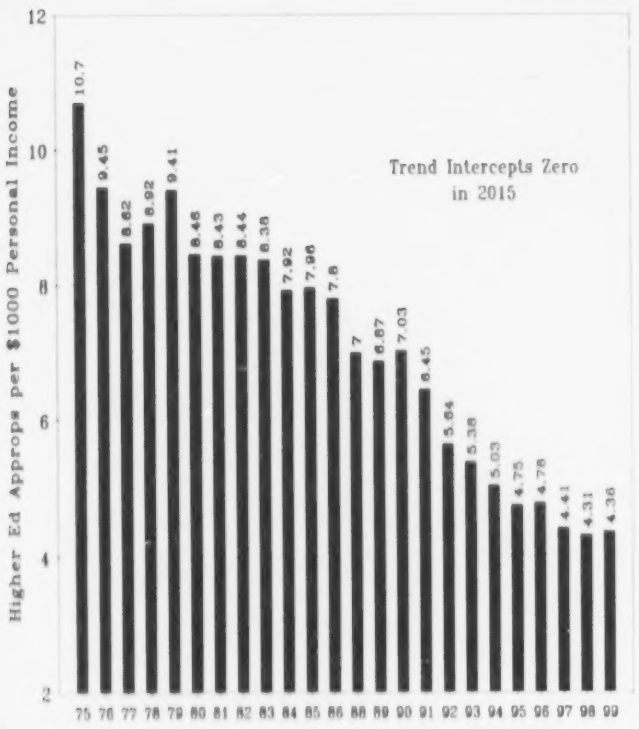

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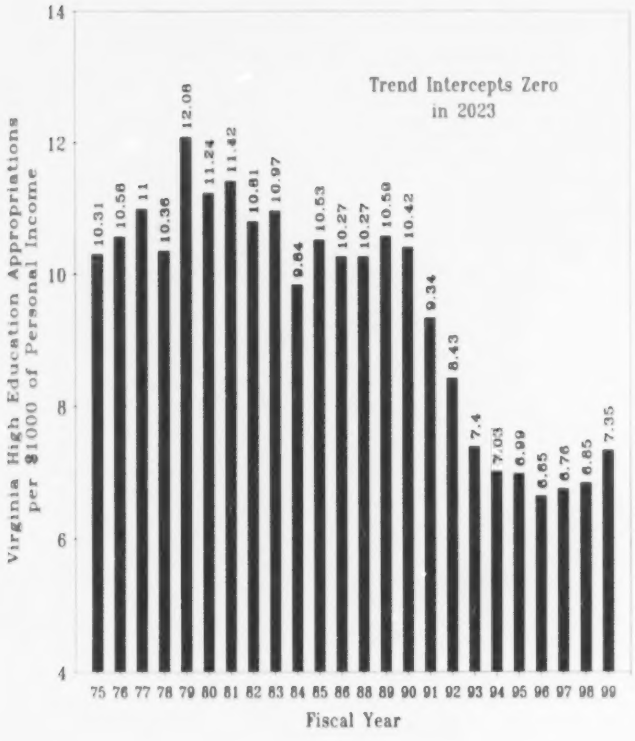

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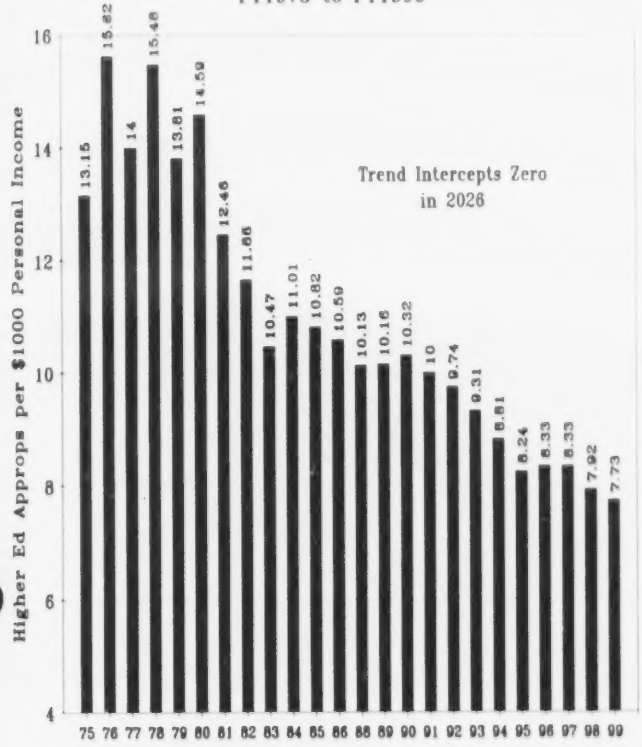

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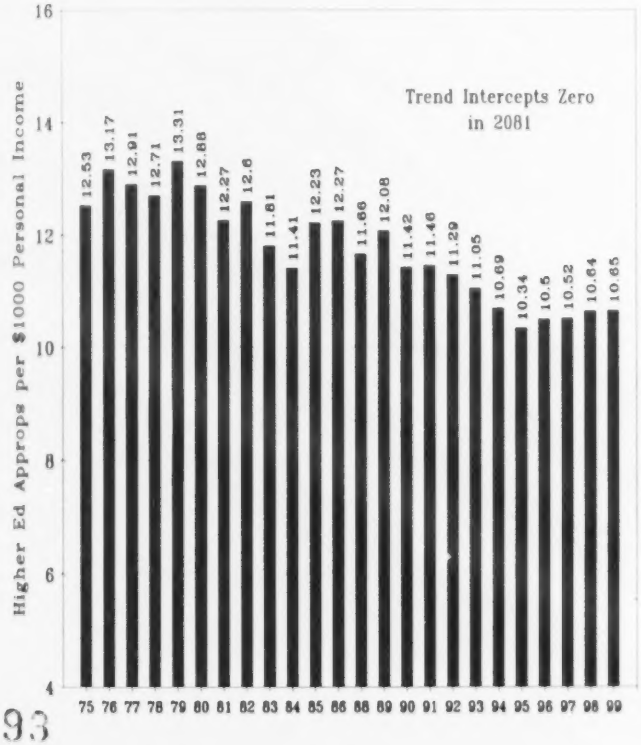

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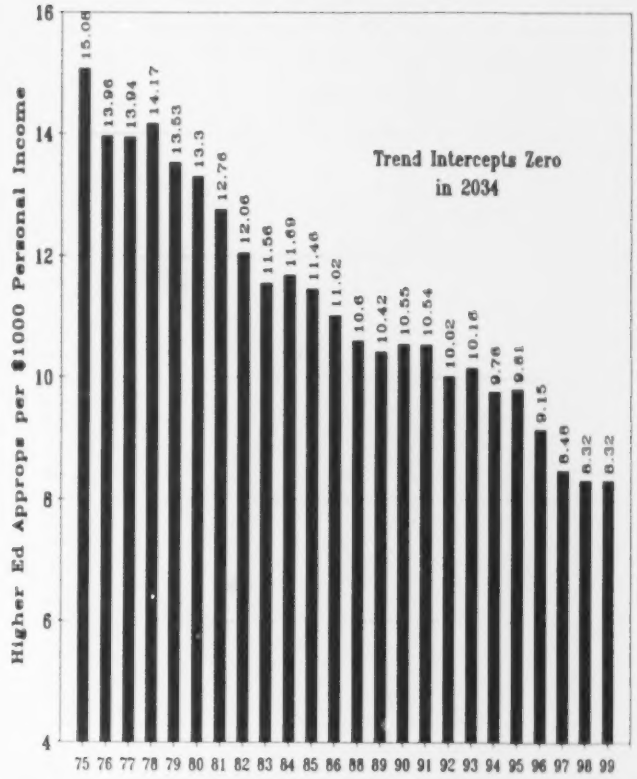

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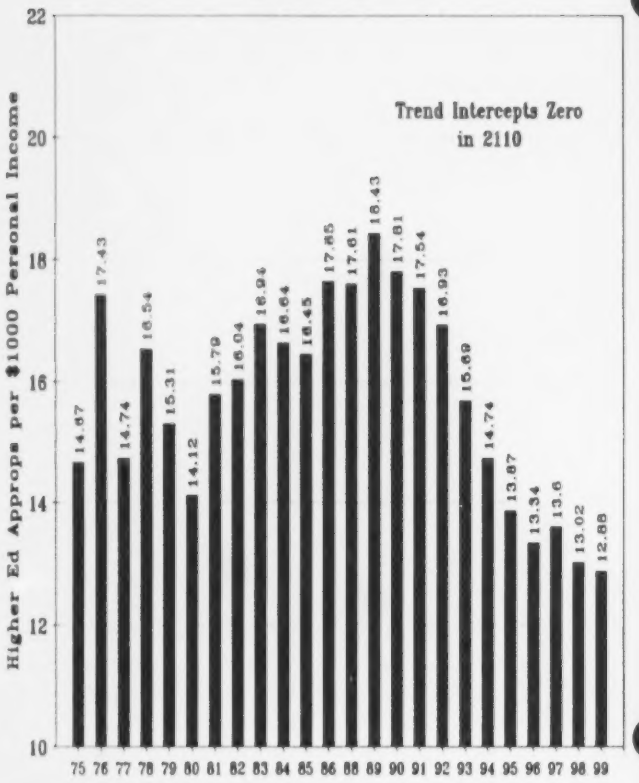

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Postsecondary Education
OPPORTUNITY

The Mortenson Research Seminar on Public Policy Analysis of Opportunity for Postsecondary Education

Number 78 | Oskaloosa, Iowa | December 1998

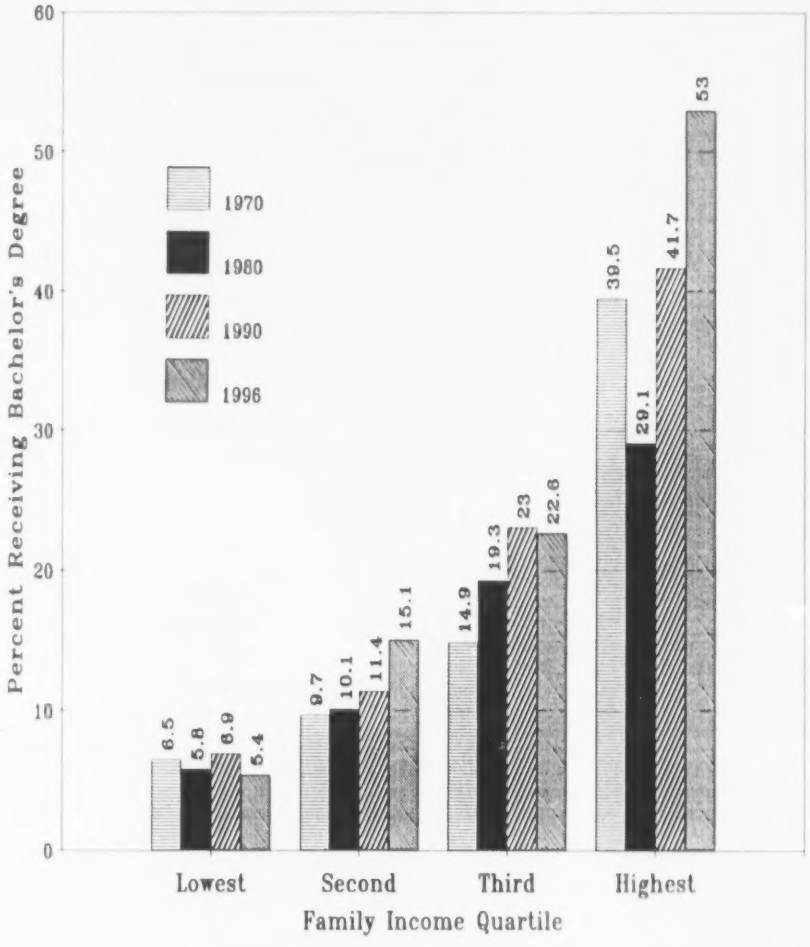
Students from Low Income Families and Higher Educational Opportunity

There are at least two major public policy foundations for most federal and state efforts to broaden opportunities for higher education. The *equality movement* of the 1960s and 1970s observed the disparities in higher educational attainment, and focused resources on needy students to help them overcome barriers to higher education. During the 1980s and 1990s the equality agenda has been displaced by an *economic development* agenda that is based on the clear link between educational attainment and labor force productivity.

Both perspectives seek similar ends--broadened participation in higher education. Both agendas recognize clear and compelling reasons why bringing more Americans into the higher education system serves important national and state interests. Both approaches rely on similar public policy initiatives: financial aid and outreach. And neither approach has accomplished a great deal for students from low income family backgrounds.

To be sure poverty is a most difficult American challenge. In this economy that is the envy of the world, while some enjoy wealth far beyond need or reason and very many Americans live lives at standards beyond those of many older societies, the poor are always with us. When we as a nation were briefly focused on reducing poverty in the 1960s and 1970s, we made great progress. But we lost interest and commitment--except for the elderly who vote and no politician wishes to offend--and as a result poverty rates rose in the 1980s and have not retreated, despite unprecedented prosperity.

Estimated Chances for a Baccalaureate Degree by Age 24 by Family Income Quartile 1970, 1980, 1990 and 1996



In this issue of OPPORTUNITY we extend our analysis of higher educational opportunity for students from low income family backgrounds that was last addressed in the September issue. This issue examines

three new measures of educational opportunity across family income.

The first analysis estimates for each state the chance that a student from a low income family will reach college between the ages of 18 and 24 years. We have been asked to do this for nearly a decade but not until last fall did we devise a credible way of doing this. The answers are clear: less than 15 percent of Alaskans from low income families reach college between 18 and 24 years compared to more than 79 percent of Puerto Ricans.

The second analysis examines supply constraints in the availability of 4-year college education to students who graduate in the bottom half of their high school class. Institutions that award at least a bachelor's degree have grown more academically selective between 1986 and 1998. This reduces access points to the 4-year college and university system for students from the bottom half of their high school class who tend to come from low income families.

The third analysis examines the distribution of students from low income family backgrounds in higher education. These students are readily identified in higher education as Pell Grant recipients. What our analysis finds is that compared to the 1970s and 1980s, Pell Grant recipients are increasingly concentrated in public 2-year colleges.

The story told by these data is of a weakened social commitment to providing higher educational opportunity for those from low income families. Until about 1973, this was not an important issue for Americans. An expanding economy raised the real incomes for Americans at all levels of educational attainment.

But after 1973, median family income stopped growing. Since 1973 incomes have been redistributed according to educational attainment. Those with the most education have seen real gains in their incomes and the living standards that income supports. Those with the least education have seen real declines in their incomes and living standards.

These data indicate that the range of those who have access to higher educational opportunity is narrowing. The reasons are many but related to each other. Foremost among these is the collapse in state financial investment in higher education after 1979. Since the end of the period when we were briefly focused on equality, states have been aggressively diverting resources previously committed to higher education to other state budget purposes, mainly corrections, Medicaid and tax cuts. As a direct result a variety of supply constraints on student enrollments in higher education have been reintroduced. These include price barriers as well as enrollment limits in underfunded public institutions.

The burden for these constraints is always born disproportionately by the most vulnerable among us. Those who need the resources of society and government the most get the least.

The result is that the growing income inequality since 1967 is exacerbated by the price rationing of higher educational opportunity. The rich get richer, because for them price is no barrier at all. The poor get poorer because price is a serious barrier to higher education directly when they cannot afford college attendance costs (even with financial aid). But also underfunded institutions trying to preserve a measure of quality in the educational programs and services they offer tend to revert to their elitist tendencies when budget limits force choices. Enrollment caps are imposed and admissions criteria are raised. And so, the rationing of higher educational opportunity proceeds.

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Mission Statement

This research letter is founded on two fundamental beliefs. First, sound public social policy requires accurate, current, independent, and focused information on the human condition. Second, education is essential to the development of human potential and resources for both private and public benefit. Therefore, the purpose of this research letter is to inform those who formulate, fund, and administer public policy and programs about the condition of and influences that affect postsecondary education opportunity for all Americans.

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Chance for College for Students from Low Income Families by State in 1996-97

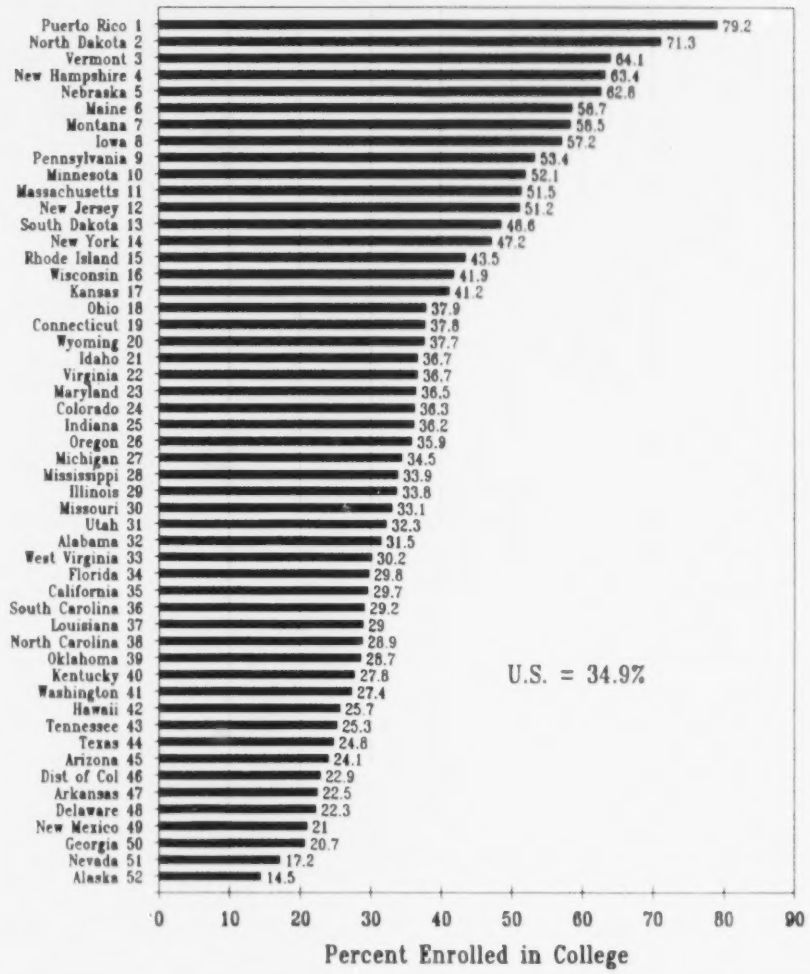
By any measure of higher educational opportunity, students from low-income family backgrounds are less likely to succeed than are students from higher family-income backgrounds. There are many reasons why these students are least likely to succeed, including poor academic backgrounds and preparation for college, little or no family resources to finance college attendance costs, lack of familiarity with colleges, and pressing family needs to remain at home and contribute to family survival.

Since the beginning of this research letter in 1992, we have published national estimates of high school graduation rates, college participation rates, college completion rates and bachelor's degree attainment rates across quartiles of family income. At each point of measure, those from lowest family income backgrounds fare worst, and those from highest family income backgrounds have fared best. The result has been growing inequality of higher educational attainment over the last 20 years.

Since the beginning of our studies and reports, interested parties have asked us about the availability of similar data at the state level. State-level data have not been available because the Census data sources we have used for these studies do not permit disaggregation to the state level. The sample size of the Current Population Survey of about 50,000 households is inadequate to support state-level analyses.

However, using other data we have constructed estimates of chance for college for students from low income family backgrounds by state. These results--while preliminary--appear to be strikingly plausible. Thus we offer them here, along with our data, to illustrate the potential of this approach to estimating higher educational opportunity for poor students in different states.

Chance for College by State for Students from Low Income Families, FY1997



The results of this analysis show huge difference between states in the chance that a poor student will both graduate from high school and enroll in college. The range is from 14.5 percent of the poor students in **Alaska**, to 79.2 percent of the poor students in **Puerto Rico**. A poor student in Puerto Rico is about five-and-a-half times more likely to enroll in college than is a poor student in Alaska.

Data and Analysis

The concept used here is simple. We calculate the following:

poor students enrolled in college /

poor students in secondary education = chance for college

This calculation combines into a single rate for students from low income families both the high school graduation rates and college participation rates for high school graduates who continue their educations. We do not calculate high school graduation rates and college continuation rates separately.

The number of poor students enrolled in college from each state is the number of dependent Pell Grant recipients by state of residence. Dependent Pell Grant recipients are between the ages of 18 and 24 years. These data are tabulated from Pell Grant recipient data. These data are not published, but are available from the "Pell research files" maintained by the Department of Education.

The number of poor high school students in each state is more difficult to derive for this purpose. The first problem is that students from low income families have far higher dropout rates in high school than do students from higher family income backgrounds. Thus any count of these students in high school enrollments misses those who have already dropped out of school. Their attrition from high school must be estimated as a part of this calculation.

There are four sources of data on children from poor or low income families available for this analysis:

- Children receiving food stamps by state. These data are provided by the Department of Agriculture.
- School children participating in the free-lunch/reduced-price school lunch program by state. This program too is administered by the Department of Agriculture.
- Children living below the poverty line in each state. These estimates are prepared by the Census Bureau.
- Students counted for Title I special funding under the Elementary and Secondary Education Act (ESEA).

These data are shown for each state in the table on page 5. The totals for the country vary across programs because the program thresholds differ and because in one case (Title 1) student counts are in some cases not used in case of whole school district counts in high poverty areas.

The 1994 Census estimates of children ages 5 to 17 years living below the poverty line (100 percent of poverty) were about 9.8 million for the 50 states plus DC. There were 11.8 million children (0-17 years) receiving Food Stamps. There were 15.4 million children receiving free lunches in schools (to 130 percent of poverty), and another 2.9 million receiving reduced-price school lunches (to 185 percent of poverty). There were 10.9 million school children counted for Title I funding under ESEA.

Each of these programs presents unique sets of problems for our analytical purposes. Some of these problems are definitional (Pell Grants go to students beyond the poverty level), while others represent participation problems (high school attrition among the poor, reluctance to self-identify as low income for program qualification purposes, particularly in high school).

To help us sort through these issues, we went back to the September 1998 OPPORTUNITY analysis of chance for college by family income quartiles. As shown on page 5 of that issue, the chance for college for bottom quartile students in 1996 was 34.9 percent. That is the product of a high school graduation rate of 64.9 percent and a college participation rate of 53.8 percent. Bottom quartile refers to dependent 18 to 24 year olds from families earning less than $24,589 in 1996.

By sheer coincidence (dumb luck), when we divide the number of dependent Pell Grant recipients for 1996-97 for the 50 states plus DC and Puerto Rico (1,536,546) by the number of 9th-12th grade free lunch program students (.277 x 15,904,165 = 4,405,454), the result is 34.9 percent.

This is exactly the same percentage as that we calculated from Census Bureau data. We are uncomfortable with deriving exactly the same percentage from distinct data sets, even though we are estimating very similar enrollment behavior for about the same low income population. But it suggests that our calculation produces reasonable estimates for each state. Thus, for this analysis we use this calculation for each state to derive our estimates of chance for college for students low-income families.

We invite other analysts to test alternative estimates by state using other estimation techniques. This calculation is too important to states to not be tested further.

Pell Grant Recipients

For 1996-97 there were 3,665,654 Pell Grant recipients. Of this total, 1,536,546 or 41.9 percent were dependents. This puts them into the 18 to 24 age range. The remaining 2,129,108 were independent and thus beyond age 24 years. By state, the proportion of Pell Grant recipients who were dependents ranged from a low of 23.0 percent in **Alaska** to 66.1 percent of residents of **Puerto Rico,** as shown in the chart on page 6.

The dependent Pell Grant recipients (classified by state of residence), are the low family income college students in the denominator of our preceding calculation of chance for college for students from low income family backgrounds. Because they are dependent we know that their parents

Estimates and Counts of Poor Children by State, 1994 to 1997

State	Food Stamp Recipient Children Pop. (1997) Agric	Census Estimates: Total Children 5-17 Pop. (1994) Census	Census Estimates: Poor Children 5-17 Pop. (1994) Census	Census Estimates: Poverty Rate 5-17 Rate (1994) Census	School Lunch Program: Total Enrollment Pop. (FY1997) Agric	School Lunch Program: Free Lunch Recipients Pop. (FY1997) Agric	School Lunch Program: Reduced Price Lnch Recipients Pop. (FY1997) Agric	School Lunch Program: Free + RP Lunch Recipients Pop. (FY1997) Agric	School Lunch Program: F + RP Lunch Prgm Recipients Rate (FY1997) Agric	Title I Participants Pop. (1996-97) Educ
Alabama	240,164	773,832	187,084	24.2%	749,695	294,110	54,785	348,895	46.5%	238,349
Alaska	25,818	133,661	17,496	13.1%	103,046	26,263	6,918	33,181	32.2%	17,888
Arizona	219,511	780,801	195,024	25.0%	733,333	298,603	53,252	351,855	48.0%	211,078
Arkansas	124,699	469,438	109,668	23.4%	467,481	171,757	32,616	204,373	43.7%	138,037
California	1,808,206	5,831,068	1,381,832	23.7%	5,477,828	2,352,265	337,573	2,689,838	49.1%	2,061,265
Colorado	111,697	692,339	97,092	14.0%	671,988	157,119	43,721	200,840	29.9%	65,039
Connecticut	106,347	554,693	85,380	15.4%	491,804	111,311	22,677	133,988	27.2%	60,706
Delaware	27,689	124,167	18,186	14.6%	111,919	33,817	7,347	41,164	36.8%	11,105
Dist of Col	49,659	74,316	23,322	31.4%	79,327	47,989	3,249	51,238	64.6%	47,208
Florida	599,745	2,318,681	507,797	21.9%	2,145,146	867,441	151,070	1,018,511	47.5%	565,453
Georgia	367,958	1,335,100	302,209	22.6%	1,364,967	659,262	133,364	792,626	58.1%	266,854
Hawaii	62,782	208,500	26,163	12.5%	195,713	54,730	15,156	69,886	35.7%	47,934
Idaho	36,438	252,027	31,455	12.5%	233,321	61,040	21,801	82,841	35.5%	36,734
Illinois	527,842	2,168,495	399,863	18.4%	1,814,435	640,109	96,478	736,587	40.6%	364,626
Indiana	160,436	1,066,460	162,397	15.2%	1,026,471	222,626	52,628	275,254	26.8%	101,517
Iowa	78,263	537,901	70,283	13.1%	539,298	108,424	35,637	144,061	26.7%	59,845
Kansas	76,244	502,547	73,378	14.6%	485,991	120,610	41,448	162,058	33.3%	73,401
Kentucky	203,350	708,036	181,580	25.6%	694,646	262,560	55,234	317,794	45.7%	251,205
Louisiana	298,224	895,901	276,962	30.9%	821,995	435,349	67,631	502,980	61.2%	329,916
Maine	51,194	227,932	38,990	17.1%	214,262	51,304	14,470	65,774	30.7%	22,005
Maryland	185,917	882,231	117,628	13.3%	828,406	214,158	43,842	258,000	31.1%	114,220
Massachusetts	180,825	995,277	170,430	17.1%	931,515	216,215	40,996	257,211	27.6%	155,458
Michigan	426,683	1,812,312	387,276	21.4%	1,727,983	451,841	83,975	535,816	31.0%	250,000
Minnesota	121,036	906,873	118,251	13.0%	859,029	170,533	58,631	229,164	26.7%	116,603
Mississippi	188,372	548,357	170,943	31.2%	514,640	283,323	40,926	324,249	63.0%	280,097
Missouri	241,018	995,705	191,872	19.3%	930,577	265,128	55,331	320,459	34.4%	158,854
Montana	32,588	176,468	30,249	17.1%	160,536	39,795	11,654	51,449	32.0%	32,720
Nebraska	50,751	324,043	36,648	11.3%	297,300	62,777	24,620	87,397	29.4%	37,048
Nevada	44,357	261,554	36,918	14.1%	245,446	60,024	15,360	75,384	30.7%	26,263
New Hampshire	21,528	211,761	20,745	9.8%	197,770	24,942	10,082	35,024	17.7%	13,361
New Jersey	249,283	1,354,044	196,655	14.5%	1,131,327	321,655	68,472	390,127	34.5%	147,824
New Mexico	109,901	352,990	99,933	28.3%	344,936	157,001	27,641	184,642	53.5%	75,867
New York	892,519	3,131,342	783,011	25.0%	3,034,956	1,212,867	180,439	1,393,306	45.9%	660,901
North Carolina	276,226	1,248,880	216,992	17.4%	1,217,991	389,044	91,487	480,531	39.5%	252,173
North Dakota	18,987	127,940	18,632	14.6%	122,362	25,100	9,064	34,164	27.9%	16,486
Ohio	403,912	2,063,776	397,901	19.3%	1,973,003	456,147	94,629	550,776	27.9%	278,451
Oklahoma	156,927	638,506	142,566	22.3%	626,596	230,261	56,421	286,682	45.8%	187,715
Oregon	111,515	574,829	84,510	14.7%	471,130	136,533	37,819	174,352	37.0%	92,029
Pennsylvania	470,616	2,092,710	377,581	18.0%	1,857,482	450,664	99,196	549,860	29.6%	353,653
Rhode Island	45,531	167,071	30,962	18.5%	143,613	43,612	6,531	50,143	34.9%	16,029
South Carolina	181,325	674,348	145,788	21.6%	649,293	276,443	50,638	327,081	50.4%	213,710
South Dakota	24,785	152,775	25,986	17.0%	148,576	40,144	13,697	53,841	36.2%	21,084
Tennessee	272,011	927,708	216,306	23.3%	901,493	311,909	54,692	366,601	40.7%	198,612
Texas	1,191,255	3,724,835	964,800	25.9%	3,851,106	1,626,377	260,248	1,886,625	49.0%	1,645,489
Utah	55,329	487,269	51,069	10.5%	462,392	89,802	42,908	132,710	28.7%	50,851
Vermont	21,276	108,545	15,960	14.7%	101,561	20,077	6,248	26,325	25.9%	12,317
Virginia	231,941	1,133,295	180,041	15.9%	1,069,127	285,572	62,980	348,552	32.6%	96,280
Washington	206,101	1,008,220	150,096	14.9%	984,040	243,704	64,387	308,091	31.3%	151,809
West Virginia	114,395	319,574	93,814	29.4%	310,644	122,045	26,312	148,357	47.8%	70,442
Wisconsin	129,698	992,304	141,661	14.3%	904,524	185,482	53,388	238,870	26.4%	156,138
Wyoming	14,746	103,336	12,759	12.3%	101,161	20,747	7,737	28,484	28.2%	13,452
Puerto Rico	dna	829,284	570,512	68.8%	687,442	493,554	50,141	543,695	79.1%	360,989
Virgin Islands	dna	dna	dna	dna	26,025	17,490	2,845	20,335	78.1%	dna
Guam	dna	dna	dna	dna	34,325	18,441	2,427	20,868	60.8%	dna
Dept of Defens	dna	dna	dna	dna	71,178	9,651	8,467	18,118	25.5%	dna
Bur Indian Aff	dna	dna	dna	dna	dna	dna	dna	dna	dna	47,261
TOTALS	**11,847,620**	**48,984,057**	**10,384,656**	**21.2%**	**46,342,151**	**15,949,747**	**3,011,286**	**18,942,915**	**40.9%**	**11,274,351**

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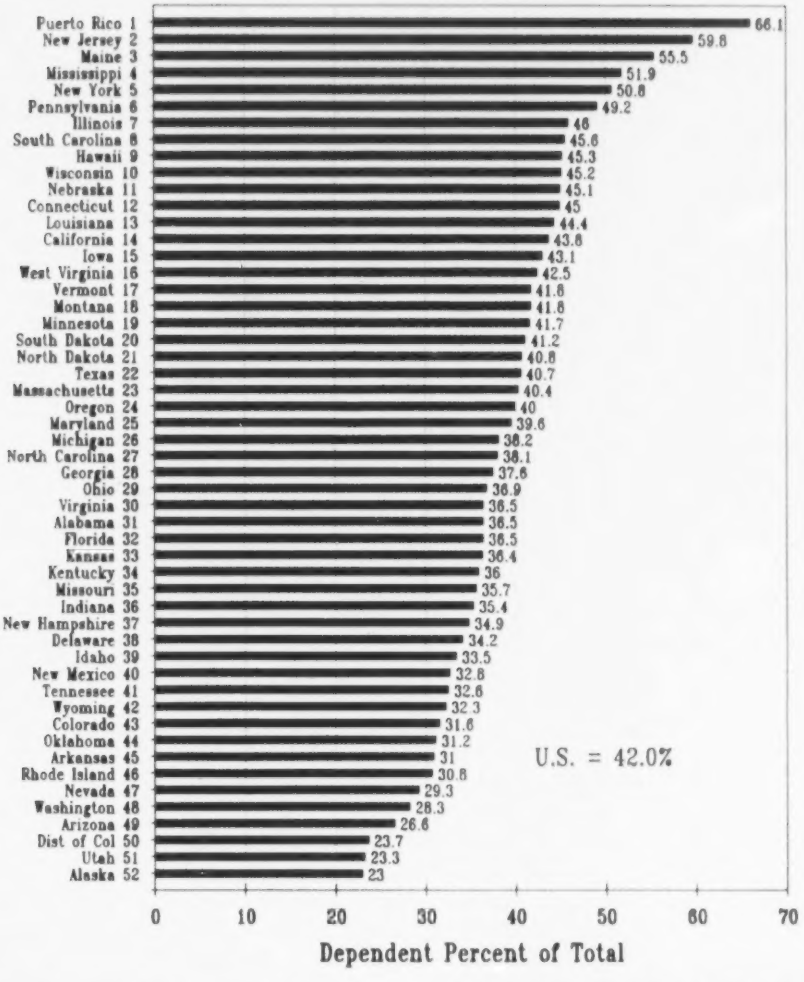
Dependent Pell Grant Recipients by State 1996-97



have relatively little income, often so little that their ability to contribute to financing the costs of attendance in college of their children is judged to be zero by the Federal Methodology of need analysis.

Pell Grant recipients who are independent of their parents are usually (but not always) over age 24 years. Older undergraduates often come from low income and/or first generation families. Often they do not enroll in college directly out of high school (when they would be classified as dependent family members). Rather they enter the work world. After a few years they come to realize that they need more education to get better paying jobs and then they enter college to improve job skills. Community colleges and urban public colleges are full of these older students. They show up in Pell Grant program data as independent students because their parental resources are no longer considered in calculating the Expected Family Contribution in need analysis.

The chart on this page shows the proportion of Pell Grant recipients that are dependent in each state. It shows wide variation across the states in the timing of low income students' entry into college. At one extreme, in four states more than half of these low income students tend to enroll in postsecondary education when they are still dependent family members. Besides **Puerto Rico**, these states are **New Jersey, Maine, Mississippi** and **New York**. These are mostly eastern states. These states appear to foster low income student access to higher education between the ages of 18 to 24 years more so than do other states.

At the other end of the scale, less than 30 percent of the Pell Grant recipients were dependents. These states are **Alaska, Utah, District of Columbia, Arizona, Washington** and **Nevada**. All but DC are western states. In these states students from low income family backgrounds appear to be more likely to defer their entry into higher education until they are older and legally independent of their parents.

Poor School Children

The federal government has an abiding interest in the welfare of poor children, especially their diets and education. For these purposes it collects data through programs targeted on children living in low income families.

Our examination of these data in the table on page 5 indicates that all data measure concentrations of low income children in states about the same way.

- The correlation between the number of children on food stamps and the number of poor children ages 5 to 17 across the states is .996.
- The correlation between the number of children on food stamps and the number of Title I children is .968.
- The correlation between the number of poor children and

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counted for Title I benefits is .958.

- The correlation between the number of Title I children and the free and reduced school lunch count is .991.

These correlations are nearly perfect given the differences in years reported and measurement of poor children.

On this page we have ranked the states according to the proportion of school children enrolled in the free lunch program. These data were used in the calculation of estimated chance for college by state charted on page 3.

Because of the high correlation between each of the four measures of children from low income families, any ranking of the states would look similar to this. The states with the largest proportions of poor children--such as **Puerto Rico, District of Columbia, Mississippi, Louisiana, Georgia** and **New Mexico** would rank near the top of any list. Similarly, the states with the smallest proportions of poor children--such as **New Hampshire, Utah, Vermont, Minnesota, Iowa**, and **Wisconsin**--would rank near the bottom.

This ranking becomes especially important when looking at how well states focus their higher education investment on students who need that help. State help is needed both to prepare school children for college in K-12 education and to help meet their financial needs through need-based grants when they get to college.

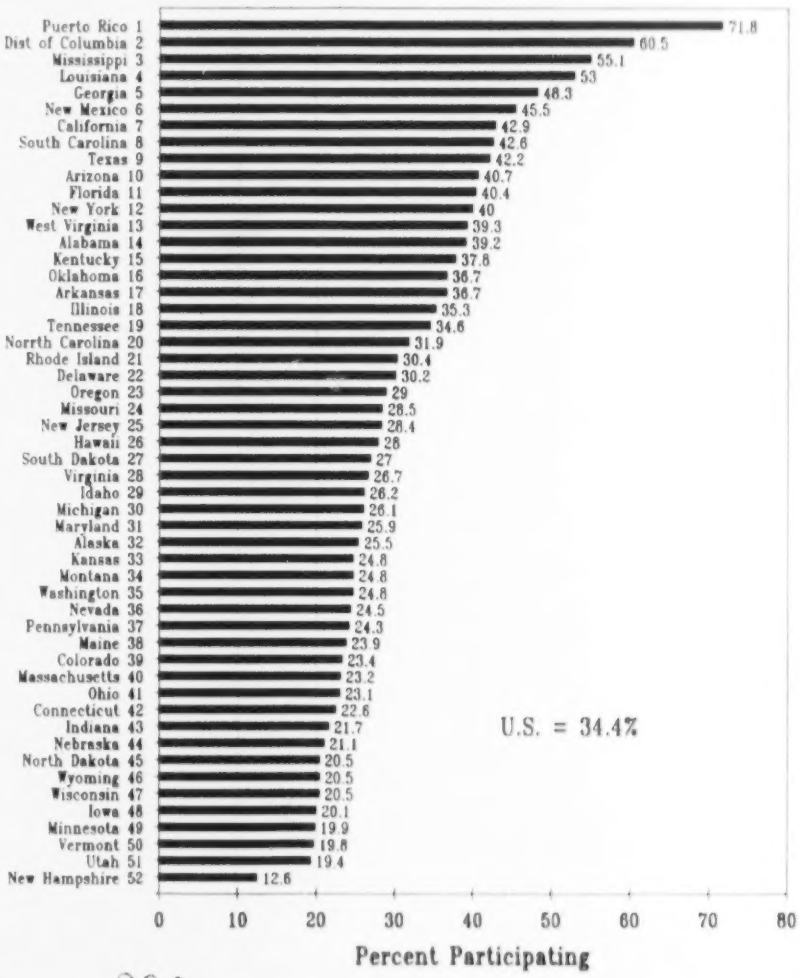
To a significant degree, probably even primarily, the state rankings on chance for college for students from low income families shown on page 3 are driven by high school graduation rates. This suggests the need for a comprehensive state approach to college access, beginning early and focused on the groups at greatest risk of leaving the education system before college.

Summary

This analysis has been an initial attempt to measure higher educational opportunity for students from low income families at the state level. It follows from our analysis of national data on higher educational opportunity by quartiles of family income last reported in the September 1998 issue of OPPORTUNITY. This analysis was prepared in response to requests from states for such an analysis at the state level, and because of the need to draw state attention to this issue.

In one sense this comparison of states is misleading insofar as it could provide false comfort to those states that rank high compared to other states. But this would be misleading to those states because the comparisons that should be drawn come from another source: labor market data that describe the relationship between educational attainment and the welfare of individuals, families, communities and the states themselves. In every state welfare however and for whomever it is defined is driven largely by postsecondary educational attainment. The more the better. The less the worse. The data could not be clearer.

Free Lunch Program Participation by State
FY1997



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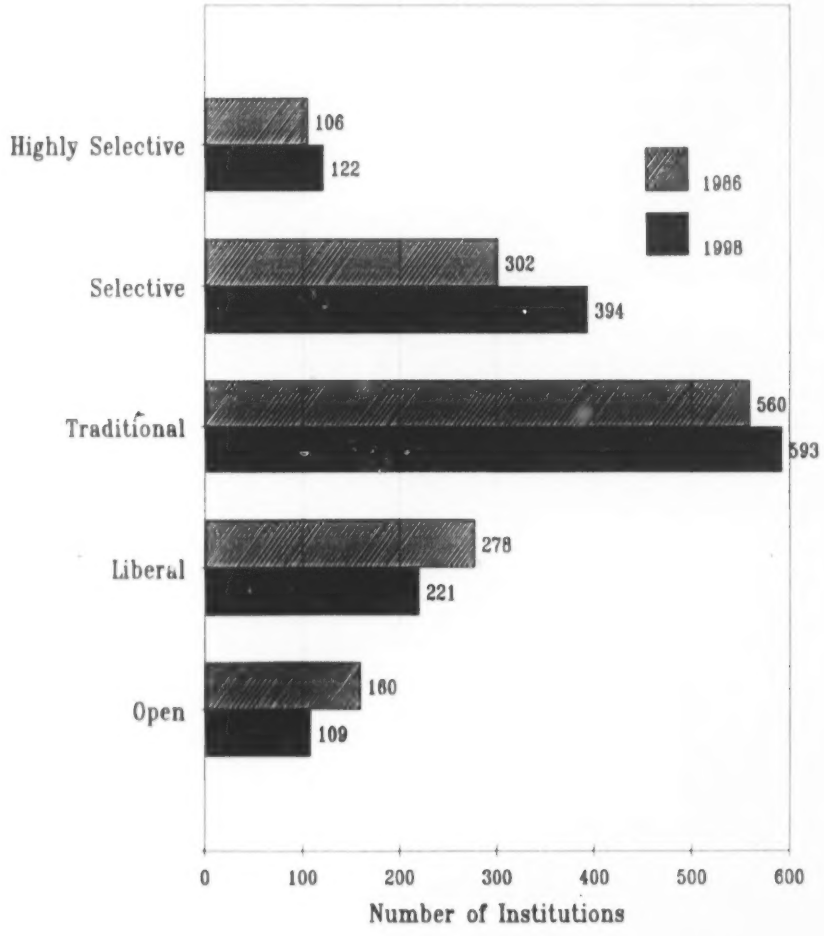
Raising the bar . . . *. . . for the least represented*

Academic Selectivity in Colleges and Universities 1986 to 1998

Over the last twelve years, there has been a significant increase in the academic selectivity of freshmen by 4-year colleges and universities in the United States. This increased selectivity has expanded opportunities for high school graduates from the top half of their high school class, and reduced opportunities for students from the bottom half of their high school class. This has occurred in both public and private 4-year institutions. It has occurred gradually but steadily, year-after-year.

This increasing academic selectivity has profound consequences for the higher educational opportunities available to students from lower levels of family income. Roughly speaking, higher educational opportunity at 4-year colleges and universities has expanded for students who graduate from the top half of their high school class. More ominously, opportunities at 4-year colleges have been greatly reduced for students from the bottom half of their high school classes.

Number of 4-Year Colleges and Universities
by Academic Selectivity
1986 and 1998



Because of the strong relationship between academic measures used in college admissions and family income, the growth in academic selectivity results in somewhat more opportunity for students from higher family income backgrounds, and significantly less opportunity at 4-year institutions for students from lower family income backgrounds. This contributes to not just disparity in higher educational opportunity, but also to the growing disparity in income and the private living standards that income supports.

The enrollment patterns and trends we study in higher education are the result of demand for and supply of higher education. Student demand for higher education is determined largely by economic and social forces, such as the private labor market return on a college investment decision and student desires for the social, cultural and intellectual benefits from higher education.

But capacity constraints also determine higher educational enrollments. The enrollments that occur result from both students seeking higher education as well as institutional willingness and abilities to enroll those who apply for admission.

Here we analyze academic selectivity reported by American public and private colleges and universities for the years 1986 through 1998. While these data were collected for other purposes, they reveal important shifts

in the supply of higher educational opportunity for students from different ranges of the high school graduating class and family income backgrounds.

The Data

Each year ACT collects data from about 2500 public and private colleges and universities through its Institutional Data Questionnaire (IDQ). These data are used by ACT for many reporting purposes. One purpose useful to institutions is the annual report on college dropout and graduation rates, which are tabulated and reported by the academic selectivity of the institutions as self-reported on the IDQ. Each year we report our analyses of these data, most recently in the July and August issues of OPPORTUNITY.

Because of the way ACT tabulates and reports the dropout and graduation rate data, these same reports can be used to report on trends and patterns in academic selectivity by public and private colleges and universities. This ACT report for the years from 1986 through 1998 is the source of the data used in the following analysis.

ACT asks institutions to identify their freshman admissions policies as follows:

Check the category which best describes to prospective students your freshman admissions policy (as applied to in-state or in-supporting-area students).

___ *1. Highly selective (majority of accepted freshmen in top 10% of high school graduating class)*

___ *2. Selective (majority of accepted freshmen in top 25% of high school graduating class)*

--- *3. Traditional (majority of accepted freshmen in top 50% of high school graduating class)*

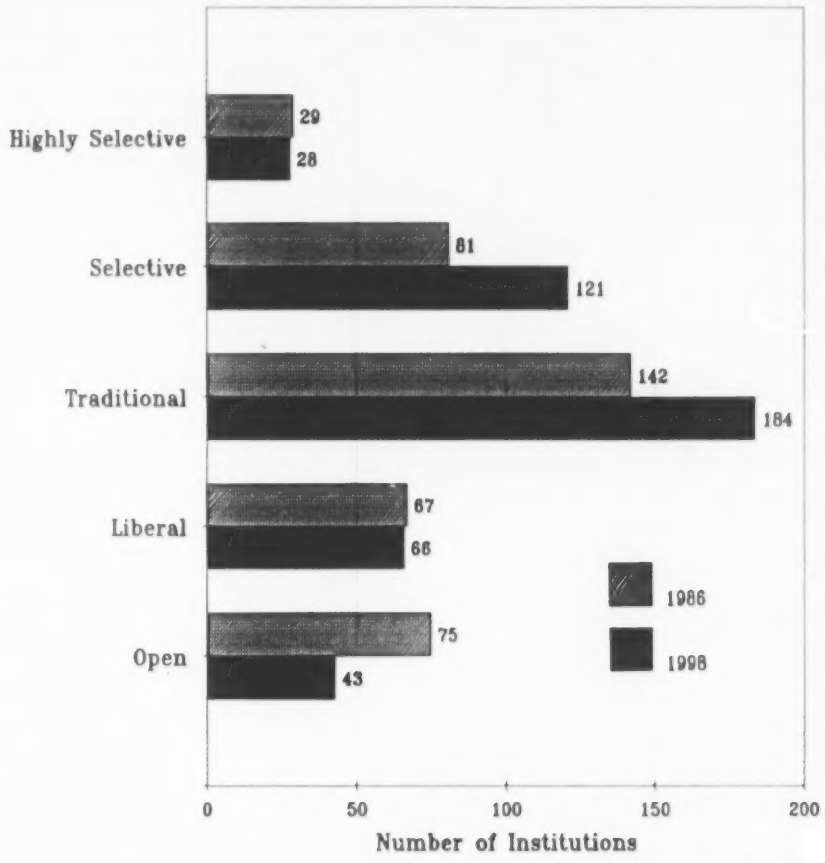
___ *4. Liberal (some freshmen from lower half of high school graduating class)*

___ *5. Open (all high school graduates accepted, to limit of capacity)*

ACT's Institutional Data Questionnaire also asks about degrees offered, and then uses highest degree offered in cross-tabulating drop-out rate and graduation rate responses with academic selectivity.

ACT reports these data in its annual National Dropout and Graduation Rates Reports. In the 1998 report data were tabulated for 2545 institutions, of which academic selectivity data were reported for 2540 institutions. By highest degree offered and institutional control, the participating institutions were as follows:

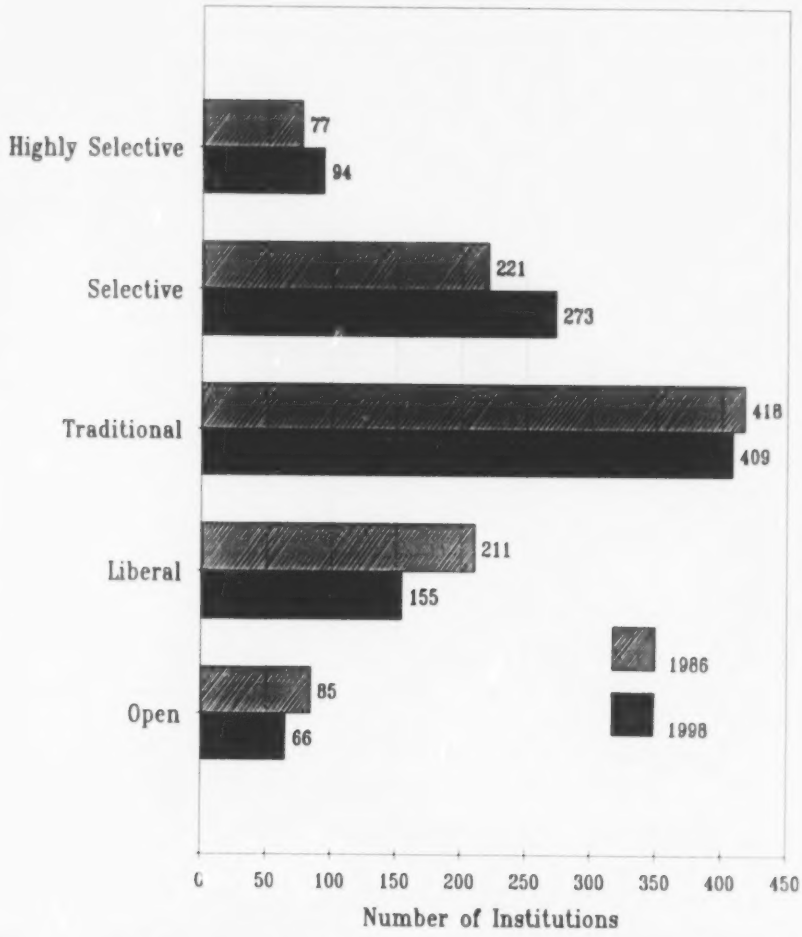
Number of Public 4-Year Colleges and Universities by Academic Selectivity 1986 and 1998



Institutions in ACT IDQ Survey

Highest Degree Offered	Public	Private	Total
2-year	764	156	920
BA/BS	66	492	558
MA/1st Prof	234	477	711
PhD	200	156	356
Total	1264	1281	2545
4-year total	500	1125	1625

Number of Private 4-Year Colleges and Universities by Academic Selectivity 1986 and 1998



Trends in Academic Selectivity in 4-Year Institutions

Between 1986 and 1998, the number of 4-year institutions on which academic selectivity data were reported increased from 1406 to 1439 and increase of 33 institutions or 2.3 percent. They were distributed according to freshman academic selectivity as shown in the chart on page 8.

Between 1986 and 1998 the number of highly selective institutions increased by 15 percent, selective by 31 percent, and traditional admissions by 6 percent. However, the number of institutions practicing liberal admissions decreased by 10 percent, and the number practicing open admissions declined by 32 percent.

The above pattern describes a major shift in the focus of 4-year colleges towards increased academic selectivity. In particular this shift shows an increase in 165 institutions that admit all or nearly all of their freshmen from the top half of the high school class. At the same time these data indicate that there was a decline of 108 institutions that practice liberal or open admissions and admit freshmen from the bottom half of the high school class.

Public institutions. Between 1986 and 1998 the number of public 4-year institutions participating in the ACT IDQ survey increased from 394 to 442, an increase of 48 institutions or 12.2 percent.

The general trend toward increasing freshmen academic selectivity described above applies to public institutions as well. Between 1986 and 1998 the number of public institutions practicing highly selective admissions decreased by 3.4 percent but increased by 49 percent for those practicing selective admissions and by 30 percent for those practicing traditional admissions. The number practicing liberal admissions declined by 2 percent, but declined by 43 percent for those practicing open admissions policies.

In some case the severe underfunding of public higher education over the last twenty years led directly to enrollment caps. Institutions and states with reduced funding faced choices: capacity or quality. Where quality was chosen over capacity, enrollment limits were accompanied by increasing admissions standards and greater selectivity among applicants. The states of Washington and Wisconsin have made this tradeoff explicit in their enrollment management.

Private institutions. The shift towards greater academic selectivity has been even more pronounced in private 4-year colleges and universities between 1986 and 1998 than it has been in public institutions. The proportion os private colleges and universities practicing highly selective admissions increased by 21 percent between 1986 and 1998, and by 24 percent with selective admissions. The proportion

practicing traditional admissions declined by 2 percent, liberal admissions declined by 27 percent and the proportion practicing open admissions declined by 22 percent between 1986 and 1998. These data are shown in the chart on page 10.

The reason for this shift toward greater academic selectivity among private 4-year colleges and universities cannot be the same as it has been for underfunded public institutions. While private colleges increased their tuition charges to offset losses in state appropriations, private institutions were not affected. Rather, it is more likely they did so because they could do so. The increasingly unequal distribution of income in America has meant that the wealthy are much wealthier than before. They can afford to pay more, and if they associate price with quality then they may be attracting the higher socio-economic status population able to afford the very much greater prices charged by private institutions.

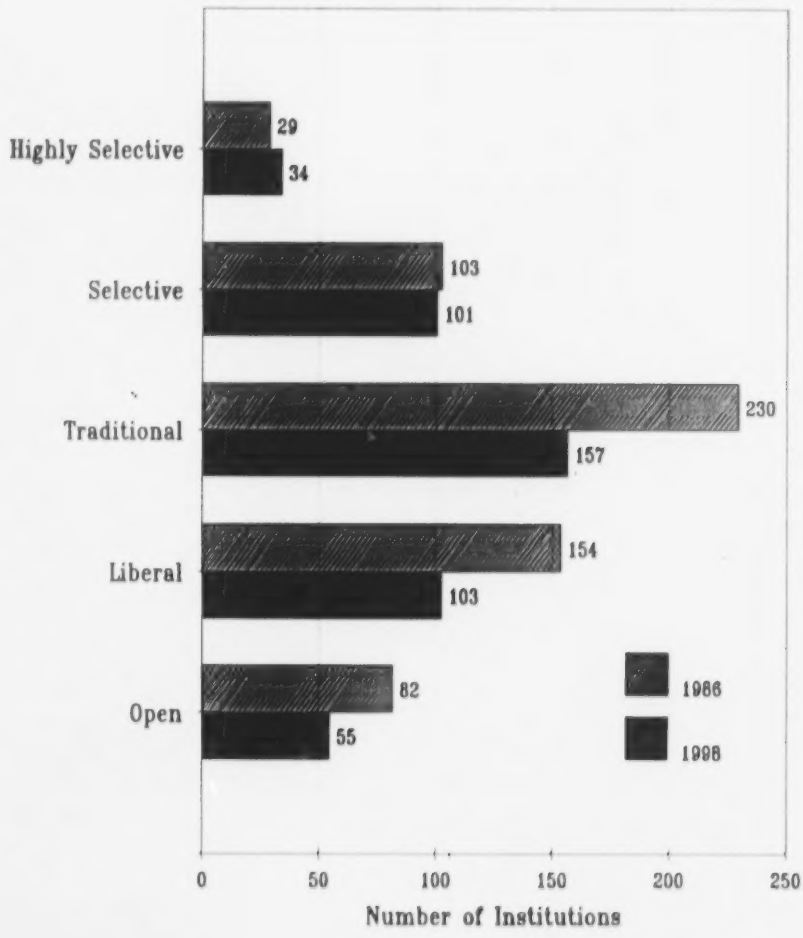
Highest Degree Offered

At the same time that both public and private colleges and universities have grown more academically selective, they have also been increasing their highest degree offerings.

Public and Private Institutions by Highest Degree Offered

Highest Degree Offered	1986	1998	Change
Public:			
Bachelors	66	45	-21
Masters	202	208	+6
PhD	149	1890	+41
Total	417	443	+26
Private:			
Bachelors	534	406	-128
Masters	366	434	+68
PhD	121	157	+36
Total	1021	997	-24

Number of Bachelor's Degree Colleges by Academic Selectivity 1986 and 1998



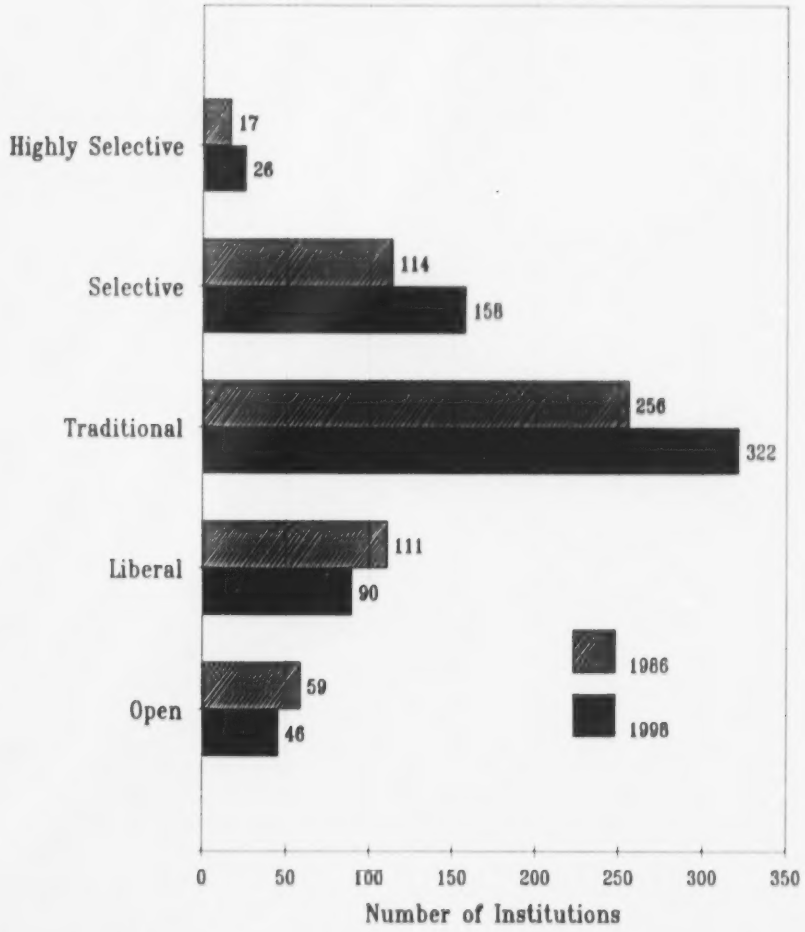
While the total number of 4-year institutions remained virtually unchanged, there were 26 more public and 24 fewer private institutions over this twelve year period.

More important to our analysis here there were 149 fewer colleges whose highest degree awarded was the bachelor's degree. This was offset by an increase of 74 institutions whose highest degree was the master's or first professional degree, and 77 more universities that awarded the PhD between 1986 and 1998.

This "mission creep" is undoubtedly a market-driven response to post-baccalaureate education needs of bachelor's degree holders. It is also quite likely related to increasing freshman admissions standards. The ACT data used in this analysis permits an examination of both phenomenon between 1986 and 1998. That analysis follows.

Bachelor's degree colleges. Although the number of colleges whose highest degree award is the bachelor's degree decreased by 149, the number of highly selective colleges increased by

Number of Master's/First Professional Degree Universities
by Academic Selectivity
1986 and 1998



5, from 29 to 34 colleges. And the number of selective admissions bachelor's colleges decreased by 2, from 103 to 102.

Therefore, all of the declines were in less selective colleges. Between 1986 and 1998 the number of traditional admissions bachelor's colleges declined by 73 institutions or 32 percent. The number of liberal admissions bachelors colleges declined by 51 institutions or 33 percent. The number of open admissions bachelor's colleges declined by 27 colleges or 33 percent. Clearly all of the steep declines were among the least selective bachelor's colleges.

Master's/1st professional. The number of master's/1st professional universities increased by 85 institutions between 1986 and 1998. All of this increase, and then some, occurred among institutions that practice at least traditional freshman admissions policies.

The number of master's universities that practice highly selective admissions increased by 9 or 53 percent between 1986 and 1998. The number practicing selective admissions increased by 44 institutions or 39 percent. The number practicing traditional admissions increased by 66 institutions or 26 percent.

At the same time, there were notable declines in the numbers of liberal and open admissions universities that award through the master's/1st professional degrees between 1986 and 1998. The number of liberal admissions master's universities decreased by 21, or 19 percent. The number practicing open admissions decreased by 13, or 22 percent.

The overall growth of this group of institutions appears to be driven by concurrent efforts to raise the highest degree offered from bachelors to master, and also to increase freshman admissions criteria from open or liberal admission to traditional or selective admissions.

PhD universities. The number of PhD granting universities increased more than did the number of master's/1st professional degree granting universities between 1986 and 1998. The increase was 95 institutions, or 38 percent.

By levels of academic selectivity, this increase occurred across all levels except open admissions universities. But nearly all of the increase was among universities that practice selective or traditional freshmen admissions. The number of selective admissions universities increased by 60 institutions or about 80 percent. The number of traditional admissions universities increased by 40 institutions or 54 percent.

The only decline occurred among open admissions universities which declined from 19 in 1986 to just 8 by 1998.

Selectivity in 2-Year Colleges

The one type of institution in which there has been no measurable trend toward increasing freshman academic selectivity is 2-year colleges. While only a few private 2-year colleges practice traditional or higher freshman admissions, nearly all 2-year colleges are self-described as open or liberal admissions institutions.

Between 1986 and 1998 the number of 2-year institutions participating in ACT's IDQ survey declined from 969 to 957. The number of public 2-year colleges increased by 19 while the number of privates decreased by 31.

In 1998 83 percent of the 2-year colleges were public. Of these 97.6 percent practiced either open or liberal admissions. In 1986 96.3 percent of the public 2-year colleges practiced liberal or open admissions. Among the private 2-year colleges, in 1986 83.2 percent practiced open or liberal admissions. In 1998 this proportion 83.8 percent. Thus, in quite stark contrast to more selective admissions criteria in both public and private 4-year colleges and universities, both public and private 2-year colleges have retained the open doors of admissions to the higher education system.

Conclusion

This analysis has examined freshman admissions criteria collected through ACT's Institutional Data Questionnaire. These data include public and private 2-year and 4-year colleges and universities. They span the years from 1986 through 1998.

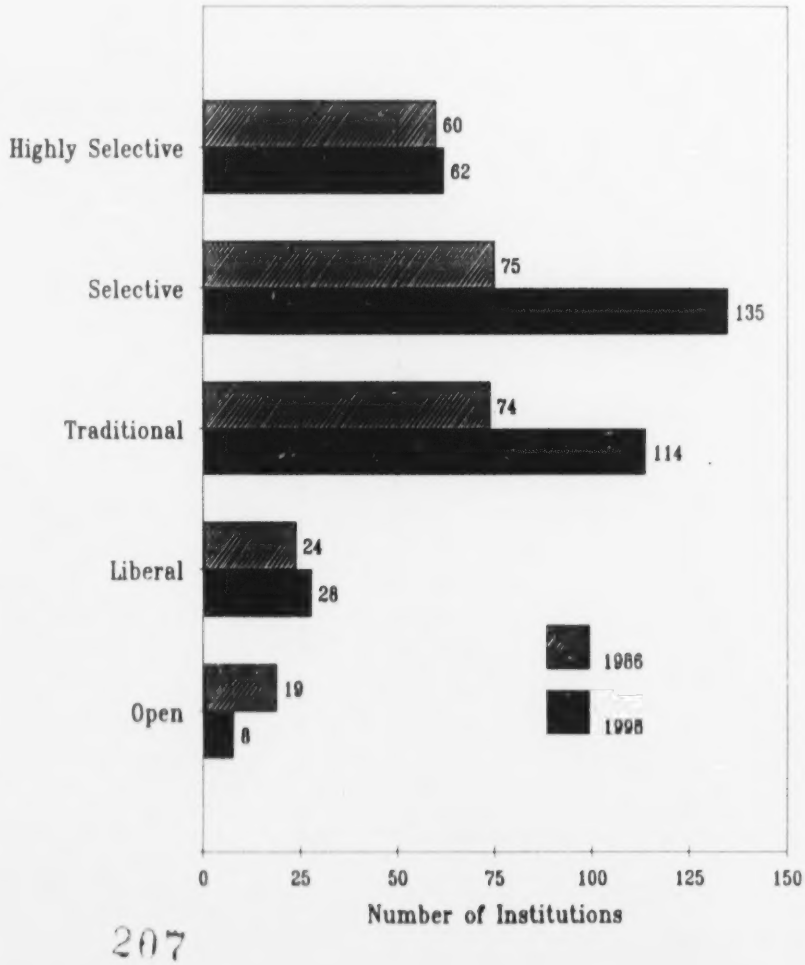
This examination finds many more 4-year public and private colleges and universities reporting more selective admissions criteria in 1998 than in 1986, and many fewer reporting open or liberal admissions policies.

The same data source indicates that neither public nor private 2-year colleges have become more selective in freshman admissions during this period. In 1998 these colleges remained basically open-door colleges.

From these findings we conclude that both public and private colleges and universities that award at least the bachelor's degree have become more academically selective in freshman admissions between 1986 and 1998. The number of institutions drawing their freshman classes entirely or primarily from the top half of the high school class has grown, and the number practicing admissions that admit from the bottom half of the high school class has shrunk, sharply, during this period.

While the number of 4-year institutions admitting from the bottom half of the high school class has shrunk sharply, this is not true of public or private 2-year colleges. In fact by 1998 most of the access points to the higher education system that remained were through the 2-year college system.

Number of PhD Degree Universities
by Academic Selectivity
1986 and 1998



Low Family Income Student Distribution and Redistribution in Higher Education, 1974 to 1997

Students from low income family backgrounds face barriers to higher educational opportunity that students from higher income families find to be mere inconveniences or irrelevant to their pursuit of higher education. These barriers include academic, financial, cultural and social obstacles to be overcome before and during college. That so few students from these low income families make it into the higher education system is evidence of the seriousness of these barriers.

Here, we examine where students from low income family backgrounds enroll in the higher education system. They are not distributed randomly nor equally throughout higher education. They are in fact concentrated in some places, and only sparsely represented in other places.

More ominously, students from low income families are increasingly concentrated in the few places that welcome them. Gradually, students from low income families are becoming scarcer in the places where they have been sparsely present in the past.

What the following data indicate is that students from low income family backgrounds are increasingly concentrated in public 2-year colleges--the higher education access point that charges students the lowest entry price. Moreover, as 4-year colleges have become more academically selective in their admissions policies, the open-door admissions policies of 2-year colleges appear more welcoming. While public 2-year colleges are relatively low priced and academically accessible, they also provide academic services at times and in places that recognize additional constraints on students from low income family backgrounds who often must work while attending college.

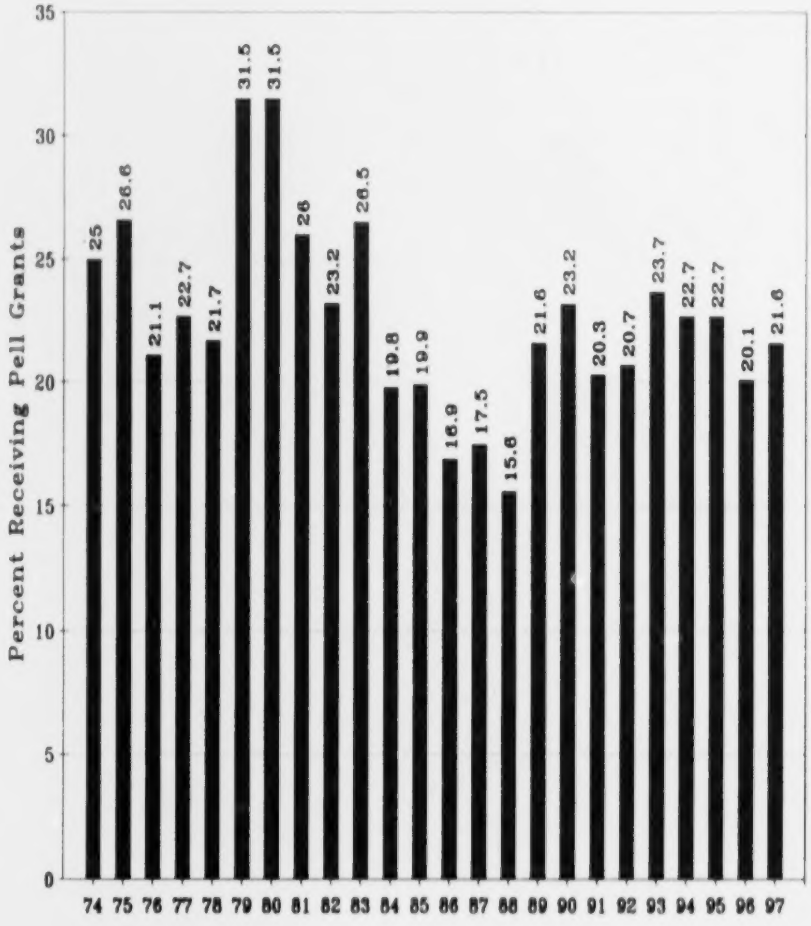
The Data and Analysis

Low income students can be defined in several ways.

- Poverty thresholds are used to define the poor.
- Family income quartiles were used in the September 1998 issue of OPPORTUNITY to describe high school graduation, college participation, college completion and bachelor's degree attainment.
- The Federal Methodology of Needs analysis identifies those who need financial aid to help pay college attendance costs.

For the following analysis we use mainly federal Pell Grant recipient data to define who among enrolled

Pell Grant Recipients
Among First-Time/Full-Time College Freshmen
1974 to 1997



postsecondary students comes from a low income family background. Among those who need financial aid to pay college attendance costs, Pell Grant recipients are typically those from lowest family income backgrounds. Since its inception, the federal Pell Grant program has retained most of its original focus on students from lowest family income backgrounds. Very roughly speaking, these students come from the bottom quartile of the income distribution of families with college-age children, or below about $25,000 per year.

In this analysis we use data collected in the annual, national survey of American college freshmen conducted by UCLA's Higher Education Research Institute. This survey has captured Pell Grant recipient data from first-time, full-time college freshmen since 1974.

Sax, L.J., Astin, A.W., Korn, W.S., Mahoney, K.M. (1997). *The American Freshman: National Norms for Fall 1997.* Los Angeles: Higher Education Research Institute, UCLA. Phone: (310) 825-1925.

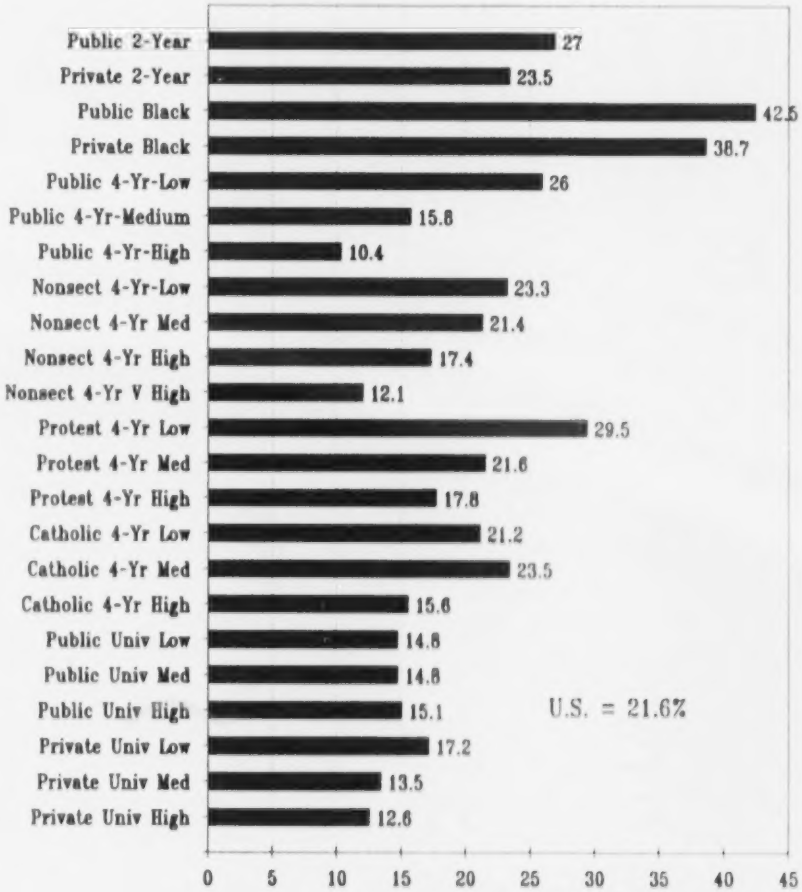
The data are conveniently reported in such as way as to permit ready identification of the proportion of freshmen receiving Pell Grants at institutions classified by control, type and selectivity. The continuity of data collection and reporting over the last twenty five years also provides valuable insights into the redistribution of students from low income families over this same time period.

Pell Grant Recipients

In the fall of 1997, 21.6 percent of the first-time, full-time freshmen enrolled in public and private, 2-year and 4-year colleges, and universities received Pell Grants to help finance their higher educations. This represents the students from low income families enrolled in higher education.

Since 1974, the proportion of first-time, full-time college freshmen reporting that they received Pell Grants has ranged from a high of 31.5 percent in 1979 and 1980, to a low of 15.6 percent in 1988. These data are shown in the chart on page 14. In most years about 20 to 22 percent of these freshmen enrolled in higher education received Pell Grants to help finance their higher educations.

Freshman Pell Grant Recipients by Institutional Control, Type and Selectivity 1997


Public 2-Year 27
Private 2-Year 23.5
Public Black 42.5
Private Black 38.7
Public 4-Yr-Low 26
Public 4-Yr-Medium 15.8
Public 4-Yr-High 10.4
Nonsect 4-Yr-Low 23.3
Nonsect 4-Yr Med 21.4
Nonsect 4-Yr High 17.4
Nonsect 4-Yr V High 12.1
Protest 4-Yr Low 29.5
Protest 4-Yr Med 21.6
Protest 4-Yr High 17.8
Catholic 4-Yr Low 21.2
Catholic 4-Yr Med 23.5
Catholic 4-Yr High 15.6
Public Univ Low 14.8
Public Univ Med 14.8
Public Univ High 15.1
Private Univ Low 17.2
Private Univ Med 13.5
Private Univ High 12.6
U.S. = 21.6%
0 5 10 15 20 25 30 35 40 45
Percent of Freshmen Receiving Pell Grants

The unusually high Pell Grant recipient rate in 1979 and 1980 is a direct product of Congressional efforts to expand Pell Grant eligibility to students from higher income families in the Middle Income Student Assistance Act of 1978. When the economy entered serious induced-recessions in the early 1980s, this middle income eligibility was largely repealed.

Institutional Type, Control and Selectivity

The proportion of first-time, full-time

college freshmen receiving Pell Grants varies widely across institutions classified in different ways. For example, in 1997 by institutional type, the proportion of freshmen receiving Pell Grants ranged from 41.3 percent in black colleges to 14.8 percent in universities.

The more interesting distribution of Pell Grant recipient representation in institutions occurs when we simultaneously control for institutional control, type and academic selectivity. The results are shown in the chart on page 15. Here the range is much wider. In highly selective public 4-year colleges, just 10.4 percent of all freshmen report receiving Pell Grants. At the other extreme, in public black 4-year colleges 42.5 percent of all freshmen report receiving Pell Grants.

This chart offers several interesting insights into who serves and who does not serve students from low income families. First, those who enroll disproportionately large shares of Pell Grant recipients include black 4-year colleges, public and private 2-year colleges, and a few types of public and private colleges, particularly those that have low admissions standards.

There are far more types of colleges and universities that enroll relatively small shares of students from low income families (Pell Grant recipients). These include public and private universities at all selectivity levels, and the most selective 4-year colleges.

Trends

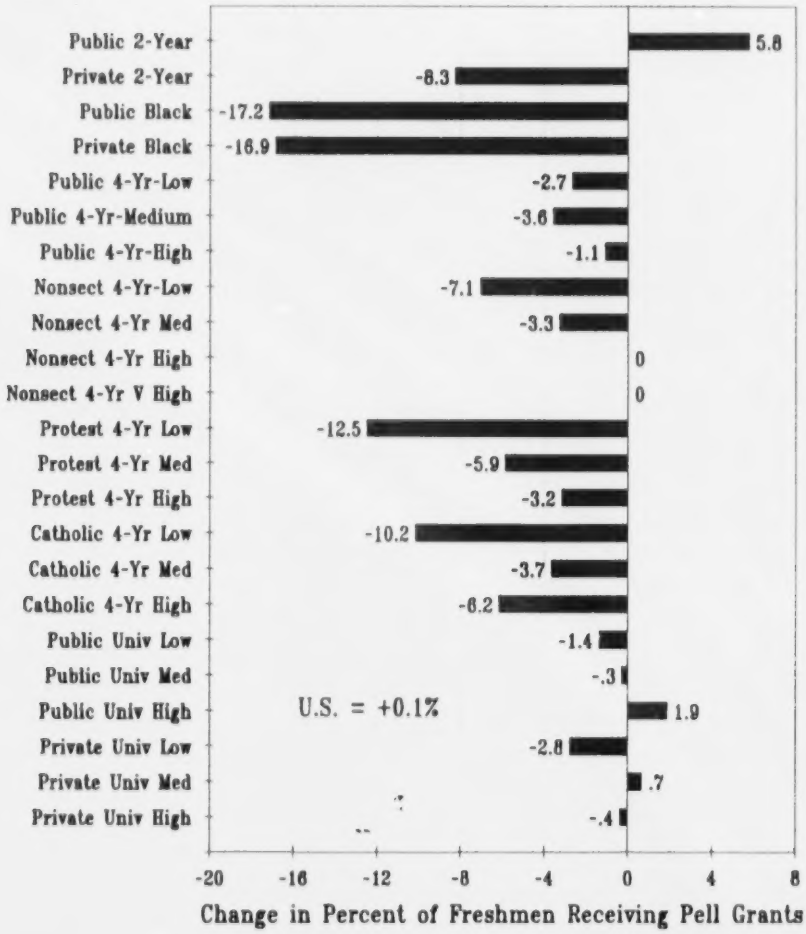
Because of changes made in the Pell Grant program over its twenty-five year life, examining trends from sampled data poses some risks. However, because assessing institutional roles in providing higher education to students from low income families is the purpose of this analysis, we assume those risks.

In this analysis we have compared the proportion of freshmen with Pell Grants from the 1970s with the 1990s. In particular, we have averaged the proportion of freshmen with Pell Grants in 1976 and 1978 by institutional control, type and selectivity, then averaged the proportion of freshmen with Pell Grants for 1995, 1996 and 1997, and noted the change between these two periods.

Overall, the average proportion for 1976-78 increased by 0.1 percent by 1995-97. Thus, if institutions were enrolling the same proportion of their freshmen classes from low income families there would be little or no change. But across institutional control/type/selectivity, there was great change between the 1970s and 1990s. Of the 23 institutional classifications, in 18 the proportion of freshmen with Pell Grants declined. In two institutional groups there was no change. In three groups there were increases.

The largest increase the proportion of freshmen with Pell Grants occurred in

Change in Freshman Pell Grant Recipients
by Institutional Control, Type and Selectivity
1976-78 to 1995-97



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public 2-year colleges. The other increases were much smaller and represent little real change.

The largest decreases in the proportion of freshmen with Pell Grants occurred in black 4-year colleges, both public and private. These institutional groups still have the largest proportion of their freshmen with Pell Grants, but this role has abated between the 1970s and 1990s.

The next largest group of decreases between the 1970s and 1990s were among 4-year colleges with low freshman selectivity. This includes Protestant, Catholic and nonsectarian colleges.

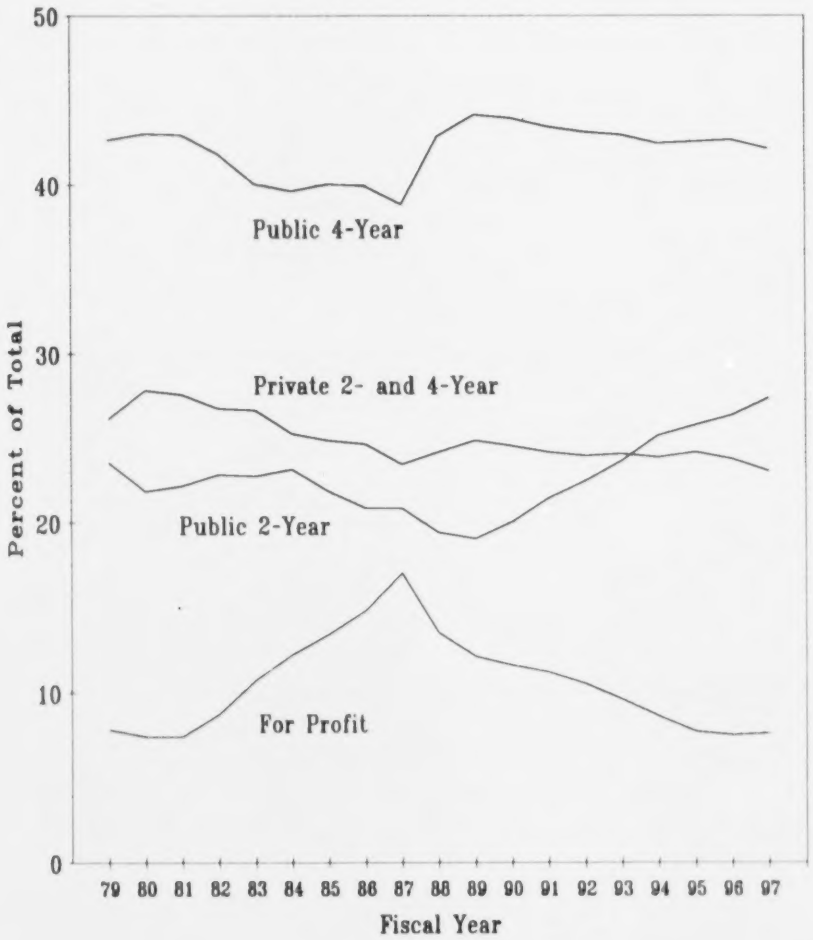
Generally, the universities--both public and private--saw the smallest changes. Some of these changes were losses and some were gains. But a fairer assessment is that universities are least likely to include Pell Grant recipients within their freshmen classes. This was true in the 1970s and remains true in the 1990s.

What these data largely describe is a retreat by 4-year colleges from enrolling students from low income family backgrounds between the 1970s and the 1990s, and a shift of these enrollments into public 2-year colleges during this period. The reduced enrollment of Pell Grant recipients covered all types of 4-year colleges: black, public, nonsectarian, Protestant and Catholic, as well as private 2-year colleges. The universities enrolled relatively few Pell Grant recipients in the 1970s and this changed little by the 1990s.

Federal Pell Grant Recipient Data

A less detailed confirmation of the above finding is apparent in federal Pell Grant recipient data by institutional type and control. These data are published in the annual reports describing the distribution of Pell Grant awards.

Distribution of Dependent Pell Grant Recipients
by Institutional Type and Control
1978-79 to 1996-97



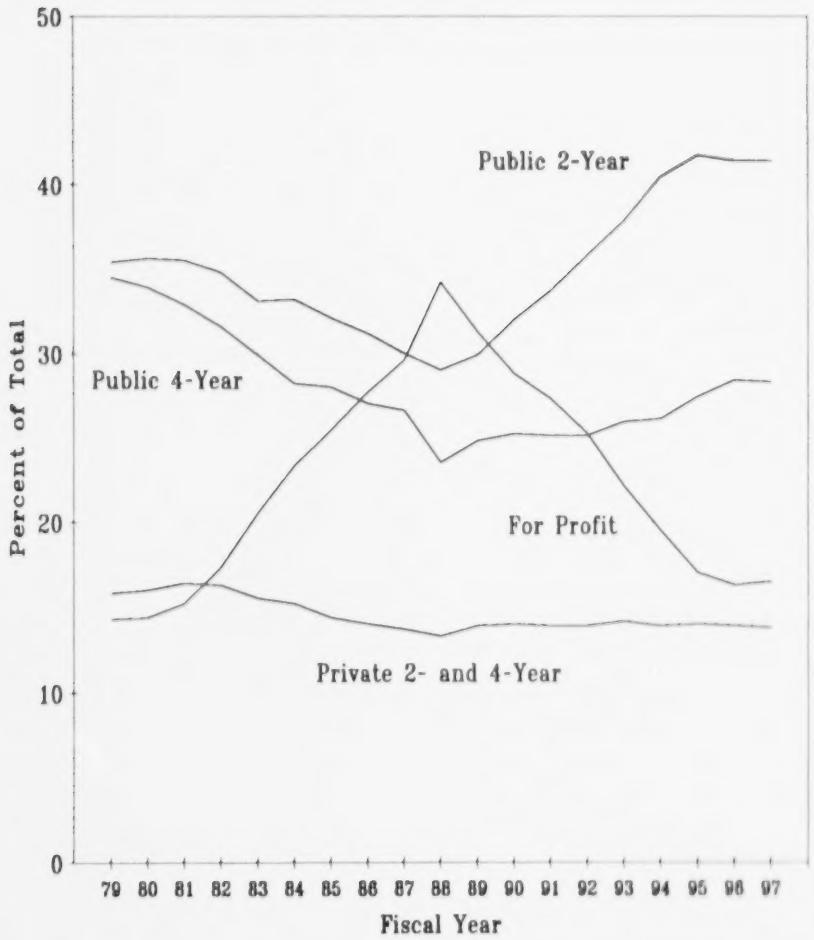
National Computer Systems. *1996-97 Title IV Federal Pell Grant Program End of Year Report.* Washington, DC: U.S. Department of Education.

Here we have compiled data from past annual reports separately for dependent and independent students, the division between the two largely being the recipient's 24th birthday. This tabulation also includes Pell Grant recipients in for profit business schools.

Dependent recipients. The chart on this page shows the distribution of dependent Pell Grant recipients by institutional type and control for the award years 1978-79 through 1996-97.

This chart highlights the peculiar era of the 1980s with the sudden growth in the share of Pell Grant recipients enrolled in for profit business schools. This was the Reagan era of laissez faire government administration of the Pell Grant program. With large sums

Distribution of Independent Pell Grant Recipients by Institutional Type and Control 1978-79 to 1996-97



of federal money available and a laid-back custodial attitude toward their use, the flies appeared for the feast. Not until student loan defaults forced restoration of responsible administration of student aid funds was the misuse of federal Pell Grant money addressed.

But setting aside the for profit anomaly in the distribution of federal Pell Grant awards the more obvious pattern of the 1990s is the gradual decline in dependent Pell Grant awards at public 4-year and private 2- and 4-year institutions, the growth over this same period in the portion going to dependent students in public 2-year colleges. The number of dependent Pell Grant recipients in public 2-year colleges surpassed the number in the private 2- and 4-year institutions in 1993-94. The gap between public 4-year and 2-year awards has been closing steadily throughout the 1990s.

These data confirm our earlier finding that a larger share of first-time, full-time freshmen at community colleges were receiving Pell Grants, and a smaller share of freshmen at 4-year colleges were receiving these grants. This is further evidence that students from lower income families are increasingly concentrated in the community colleges, and this has been a shift from 4-year colleges, both public and private.

Independent recipients. The chart on this page shows the distribution of independent Pell Grant recipients by institutional type and control. This chart also covers the awards years from 1978-79 through 1996-97.

In this chart the for profit spike of the 1980s is even more dramatic for independent (older) low income students than it was for dependent students.

Setting this anomaly aside, public 2-year colleges have always had the largest share of these awards. While the share of Pell Grants going to low income students in the traditional higher education sectors declined until 1988, after 1988 nearly all the growth in sector share has gone to the public 2-year colleges. Expressed another way, older low income students have always found greater welcome in the public 2-year colleges than in 4-year colleges and universities. But this has strengthened even further after FY1988.

There is another phenomenon not addressed directly by these charts but which magnifies the shift to 2-year colleges in Pell Grant awards: the growth of independent (older) students in the Pell Grant program over its 25 year history. These are often students from low income and/or first generation families who enter college a decade or so after high school. They have come to realize that without further education their career and income prospects look bleak. Community colleges offer the delayed college access that most 4-year colleges do not bother to provide.

Parental Income Profiles

In addition to these analyses of Pell Grant data, we can examine another perspective on the distribution of low income students in higher education through family income data. The UCLA freshman survey provides these data by institutional control, type and selectivity.

The chart to the right shows median estimated parental income for college freshmen in 1997. For all freshmen, median estimated parental income was $52,941. The range in these median incomes is large, from $33,451 at public black colleges to $92,481 at highly selective private universities. Generally median parental incomes are lowest in black colleges and 2-year colleges. They are highest in universities and the most selective institutions of each type where selectivity data is available and meaningful.

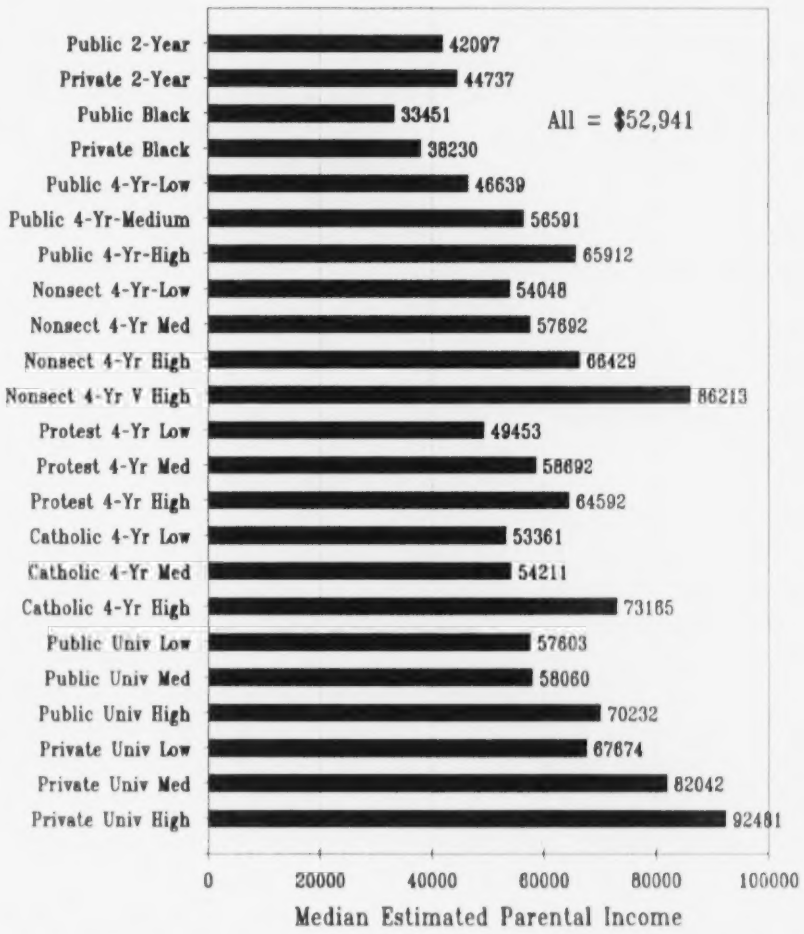
The chart on the following page shows the percentage change in median parental incomes for these institutions between 1985 and 1997. The 1985 dollars are adjusted to 1997 dollars with the CPI. This corresponds to the years when academic selectivity increased in both public and private 4-year institutions (pp. 8-13).

For all freshmen, median parental income increased by 3.5 percent between 1985 and 1997. By institutional group, median parental incomes increased the most in public black colleges, highly selective Catholic 4-year colleges, highly selective public universities and highly selective private universities.

Median parental incomes declined the most in 2-year colleges, both public and private.

These findings are similar to the findings from the two previous analyses. Family incomes--measured here by medians--are generally increasing in 4-year institutions, and decreasing in 2-year colleges. This too suggests that enrollments are being sorted by family income in higher education. The affluent are doing well in public and private 4-year colleges, and students from low income families are increasingly concentrated in public community colleges.

Median Parental Income of First-Time/Full-Time Freshmen by Institutional Control, Type and Selectivity 1997



Conclusions

Students from low family income backgrounds face many serious barriers to higher education. These include academic and financial barriers imposed by public and institutional policy decisions. The state and federal policy decision to shift the costs of higher education from taxpayers to students over the last two decades has its greatest impact on those least able to afford higher education. The underfunding of public higher education results in limits to capacity that become operational by raising admissions standards. Students from low income families are disproportionately impacted by these financing and admissions policies.

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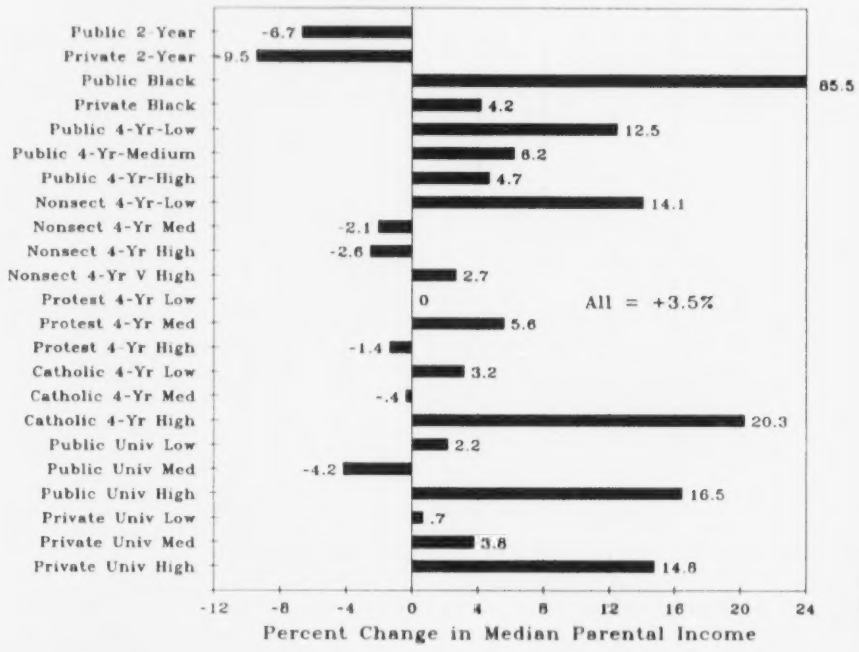
Students from low income families graduate from high school and continue their educations in college at far lower rates than do students from middle-income and affluent family backgrounds. But they have not lost further ground here--available data indicates that these students appreciate the importance of higher education to their lives. For those who try to pursue their higher educations immediately after high school, the data analyzed here all point toward an enrollment shift from 4-year to 2-year colleges, particularly toward public community colleges. The financial and academic barriers students from low income families face are growing increasingly difficult to overcome.

As higher education becomes more important to people's lives, this rationing process of educational opportunity further divides us into the haves and the left-outs and greatly weakens us as a nation.

Change in Median Parental Income of Freshmen by Institutional Control, Type and Selectivity 1985 to 1997


Public 2-Year -6.7
Private 2-Year -9.5
Public Black 85.5
Private Black 4.2
Public 4-Yr-Low 12.5
Public 4-Yr-Medium 6.2
Public 4-Yr-High 4.7
Nonsect 4-Yr-Low 14.1
Nonsect 4-Yr Med -2.1
Nonsect 4-Yr High -2.6
Nonsect 4-Yr V High 2.7
Protest 4-Yr Low 0
Protest 4-Yr Med 5.6
Protest 4-Yr High -1.4
Catholic 4-Yr Low 3.2
Catholic 4-Yr Med -.4
Catholic 4-Yr High 20.3
Public Univ Low 2.2
Public Univ Med -4.2
Public Univ High 16.5
Private Univ Low .7
Private Univ Med 3.8
Private Univ High 14.8
All = +3.5%
-12 -8 -4 0 4 8 12 16 20 24
Percent Change in Median Parental Income

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